

## Honorary Member



The ESA's Honorary Member Award is given to a distinguished ecologist who has made exceptional contributions to ecology and whose principal residence and site of ecological research are outside of North America. There are a maximum of 20 Honorary Members at any one time.

The newest Honorary Member of ESA is Professor Marten Scheffer of Wageningen University in The Netherlands.

Dr. Scheffer has led the field of limnology, and contributed ecological theory that has inspired diverse areas of study. For example, his 2001 paper in *Nature* has been very broadly influential in reinvigorating the study of alternative stable states. After the introduction of alternate states into our field in the 1960s and a burst of research in the 1970s, interest in the concept tailed off, perhaps because it is so difficult to demonstrate the concept. By the 1990s, however, progress in long-term ecological research, landscape ecology, whole-ecosystem studies, and other branches of ecology brought renewed interest in alternate states. Global environmental problems were more acutely evident and alternate states seemed increasingly relevant. The 2001 paper gathered these currents into a river that stimulated an enormous amount of research on alternate states in recent years. Scheffer himself has continued to make important contributions in this area. Most notably, he led a team of scientists who published a recent synthesis in *Nature* (2009) summarizing progress in devising early-warning signals for regime shifts in complex systems. This area of research is one of the most exciting links between ecological theory and the practical challenges of addressing global changes that has emerged in recent decades.

Scheffer has also made important contributions to the study of social–ecological systems. His 2001 and 2003 papers in *Ecosystems* showed how social interactions, in the context of uncertain scientific information about potential environmental crisis, could drive a wedge through society and block progress. The simple and elegant mechanisms proposed in those papers can explain, for example, U.S. political dynamics surrounding climate change.

Under Scheffer's leadership, the Aquatic Ecology and Water Management Group at Wageningen University has grown to be a powerful force in limnology. His group contributes papers across a wide spectrum of topics, from highly applied aspects of practical limnology, to sophisticated laboratory experiments, to abstract ecological theory.

More recently, Scheffer has led the establishment of the South American Institute for Resilience and Sustainability Studies. A unique feature of SARAS is that its work on sustainability combines the arts and sciences explicitly. The idea is that art can contribute to scientific creativity through its role in idea generation and visualization, and that art is also uniquely powerful in communicating complex ideas to the public. SARAS is a fascinating experiment in interdisciplinarity across a range of perspectives that have rarely been integrated for sustainability studies.

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Dr. Marten Scheffer  
Professor  
Wageningen University  
Aquatic Ecology, Ecosystem Ecology, Theoretical  
Population Biology

“Great new ideas often occur at the crossroads of different fields, and I think it would help science if people would move a bit more.”

My parents are musicians. However, my family has seen many generations of scientists and medical doctors. Resultantly, I engage in both science and music. It was almost unavoidable that I would become a biologist. My mother and my great-grandfather taught me about birds and plants, and I have been fascinated by nature ever since. I am inspired by people such as Steve Carpenter and Bjorn Holmgren, both of whom show that you can be a great scientist, but also modest, open-minded, and dedicated to make the world a better place for humans and many other species.

After my masters, I did my “civil service” in a biological station working on breeding bird populations in cities. I then applied for a job as a freshwater ecologist/modeler at the state institute for inland water management. I am now the head of the aquatic ecology and water quality management group at our university. From my background in theoretical ecology, I am now working on understanding how complex systems, such as the brain, a lake, or a financial market, can occasionally go through a drastic transition. Can we understand why that happens? Can we see it coming? Can we prevent it? Or can we stimulate it?

What I really love most is to discuss new ideas and results with a small group of colleagues or students. Of course drawing on the whiteboard or little sheets of paper is good, but talking while walking for me is even more enjoyable. I have been fortunate to have had no major challenges in my lifetime; I think I have simply been lucky to be in the right place at the right time. Certainly, the interdisciplinary work is challenging, but it’s also really fun. Probably the most influential event in my career was the invitation to join the Resilience Alliance, led by Buzz Holling. Steve Carpenter, a fellow aquatic ecologist with similarly broad interests, introduced me there, and it allowed me to meet a broad group of thinkers that really widened my views, especially to social sciences.

