VOLKER GRIMM, LAUDATIO
GFÖ HONORY MEDAL 2025, WÜRZBURG

Volker and I know each other since the 1990ies, when I was a student in the physics department in Marburg taking Theoretical Ecology as my physics major and Volker did his PhD with Christian Wissel.

Before that, Volker had completed two degrees, in Biology and Physics.

Later, Volker moved on to the UFZ in Leipzig as a postdoc and I followed a bit later to write my diploma thesis also at the UFZ.

Volker was famous for eagerly reading tons of papers. At least twice a year he went to a big library in Frankfurt with the greatest collection of international journals available in Germany to copy all the new ecology papers. To the younger audience: the internet was still small and incredibly slow, so all journals were on paper. And Volker did not just read all of these papers, but distilled their essence.

Very notably, in 1997 he published the important paper: Babel, or the ecological stability discussions: an inventory and analysis of terminology and a guide for avoiding confusion.

He also tried to understand how to design, test, and analyze ecological models. Again, from reading many papers and chatting and collaborating with many colleagues, he distilled patterns as an essential tool to find the optimal level of detail in simulation models. Volker summarized this strategy as "pattern oriented modelling" and published 2005 a key paper on pattern-oriented modelling in the journal Science.

In that Science paper, Volker used agent-based models, or in line with today's talk I should probably use the term individual-based models, … so he used individual-based models as an example to illustrate his pattern-oriented modelling strategy.

Individual-based models are very flexible, and can be adjusted in whatever way needed to investigate a given question. However, they are more difficult to communicate than mathematical models where one just needs to list all equations. Virtually every paper reporting an individual-based model used a different structure, and often essential details were missing.

This problem did not escape Volker's attention and so again, he sat down to read many papers, and chatted and collaborated with many colleagues, to design a protocol of how to report individual-based models.

The ODD protocol, where ODD stands for Overview, Design concepts and Details, is now standard for individual-based and other simulation models, and similar protocols have been developed for a number of different model types.

Jointly with Steve Railsback, Volker wrote his masterpieces, two books published by Princeton University Press on individual based modelling, one covering the theory, and one being very practical and hands-on.

Volker also plays a key role in the Open Modeling Foundation, which collects and promotes standards and best practices for modelling,

Being always on the front of research, more recently Volker became interested in Biodiversity Digital Twins.

Volker is known for being instrumental in developing the BEEHAVE model, which simulates the dynamics of a honey bee colony. He worked on ecological risk assessment of pesticides, and – you guessed it –, developed standards, in this case to make these models fit for regulatory risk assessments.

In addition, Volker did a lot of teaching, at the University of Potsdam, where he holds a professorship for Theoretical Ecology, in terms of summer schools at a range of places, and last but not least in terms of supervision of students.

The GFÖ honory medal is not the first important award he receives. The Ecological Society of America awarded him the 2023 Robert Whittaker Distinguished Ecologist Award, which is presented every two years to an outstanding non-American ecologist.

If you are not a modeler, you may wonder how Volker's ability to synthesize from a large body of knowledge relates to your work? I think this is what Volker is now going to explain to us. So, Volker, we are looking forward to your talk on Individual-based ecology: when if not now?

Kerstin Wiegand, Universität Göttingen