

Heywood received the 2009 Georg Wüst Prize

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Prof. Dr. Georg Wüst



Prof. Dr. Karen J. Heywood

Prof. Dr. Karen J. Heywood received the Georg Wüst Prize 2009 at the European Geophysical Union (EGU) General Assembly in Vienna, Austria, April 2009. This biennial prize is awarded for outstanding contributions to the general field of oceanography and is sponsored by the German Society for Marine Research and *Ocean Dynamics*. The following is a transcript of the citation followed by the response by Prof. Dr. Karen J. Heywood.

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1 Citation

The Georg Wüst Prize is awarded for outstanding contributions to oceanic research in any marine discipline. Specifically, it is meant to honour excellent mid-career scientists, thus targeting a group missed by the ‘outstanding lifetime achievements’ awards or those awards directed explicitly at bright ‘young scientists’. It is the intent that this honour will further inspire the recipient to tackle the demanding tasks that are imposed in directing current and future research in oceanography.

The German Society for Marine Research (Deutsche Gesellschaft für Meeresforschung, DGM) awards this biennial prize with the generous sponsorship of the international Springer Journal *Ocean Dynamics*.

The inaugural presentation of the Georg Wüst Prize was presented at the 2005 EGU General Assembly in Vienna by Prof. Arnold L. Gordon, Lamont-Doherty Earth Observatory of Columbia University and I to Dr. Stephen Rintoul, CSIRO, Hobart, Australia. In 2007, the recipient was Dr. Eberhard Fahrback of the Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany.

As president of the DGM and Chief Editor of *Ocean Dynamics*, it is my distinct honour and great pleasure to present the 2009 Georg Wüst Prize to Prof. Dr. Karen J. Heywood from the University of East Anglia, Norwich, UK.

Before alluding to the achievements of Karen Heywood, I first quote from Arnold's statement at the 2005 ceremony concerning Georg Wüst's achievements.

"Georg Wüst, born 15 June 1890, brought descriptive oceanography into the modern era. Through a careful analysis of each hard-won observational data point that passed his meticulous quality control procedures, he probed into the secrets of the ocean, contributing to several research areas. He is best known for his Atlantic Ocean studies, where with great insight and skill he combined water mass analysis by means of the temperature–salinity relationship and the core method, with the dynamic approach of geostrophic balance, to reveal the nature of the deep Atlantic's stratification and circulation."

Coming now to Karen J. Heywood, I quote from the nomination letter to describe why she was chosen to be the recipient of the 2009 Georg Wüst Prize.

Karen J. Heywood is an outstanding physical oceanographer with a strong focus on field work at sea in the sense of Georg Wüst's tradition, i.e. carefully planned cruises, application of a variety of novel methods at sea, sophisticated data analysis and a rich publication record of the obtained results. She is a whole-hearted oceanographer and uses every tool in the box to explain the processes at work, be it ocean models, climate models, moorings, hydrographic sections, chemical tracers, remote sensing, floats or gliders.

Beyond that, she was intensively engaged in a variety of multidisciplinary projects and is active from the Nordic Seas to the Southern Ocean.

In addition to her research efforts, she enjoys teaching and led numerous Ph.D. students to their grades. She intensively fostered international cooperation by participation in international steering and working groups as well as in international projects as partner and chair.

The combination of 20 years of successful field work and engagement in international cooperation is the most appropriate and clearest qualification for the Georg Wüst Prize.

The prize consists of a 3-D laser-engraved picture of the old *Meteor* in a glass block, a prize certificate, an honorary lifetime membership with the German Society for Marine Research and a prize money of 1,500 €.

Congratulations Karen!

Prof. Dr. Jörg-Olaf Wolff, President of the German Society for Marine Research and Chief Editor of *Ocean Dynamics*.

2 Response

Thank you Jörg for this prize and that flattering citation—it is a great honour to be considered as worthy as Steve Rintoul and Eberhard Fahrback. I am most grateful to *Ocean Dynamics*, Springer and the DGM. I will treasure this beautiful *Meteor* glass block forever and look forward to being a member of the DGM.

It is fitting that prizes are named after people. It is a great way to remember the people who laid the foundations of the work we do today—and Georg Wüst is certainly one of those. The point I would like to make today is that *science is all about people*.

Georg Wüst's groundbreaking surveys on the *Meteor* in the 1920s look remarkably similar to our WOCE and CLIVAR sections today—this is his legacy. In those days, it was usual for papers to be published as single author, but he must have benefited too from collaborating with other scientists and technicians, just as we do today. Particularly in seagoing oceanography but also in the big global modelling groups nowadays, we are all dependent on other scientists to make progress.

If you talk to schoolchildren or to the person in the street, there is a widely held stereotype of the scientist working alone in the laboratory or at the computer and avoiding interaction with people. Perhaps oceanography is unusual, but I would say that oceanographers *like* working together—their science is all about collaborating, joining in with other people's activities on cruises and learning from each other. After all, the very fact that we are here at this EGU conference shows that we like talking to each other!

I would like to say a special thank you to those who taught me how to be a scientist. I do not mean those who taught me oceanography—although many of these people did that also. I mean the role models, mentors and people who have guided and inspired me. They are all great scientists, but they have been more than that to me. Perhaps the most important thing that they have taught me is that

people are important. The best scientists are not only excellent researchers themselves but also take the time to help and nurture those less experienced than themselves. In my verbal response, I included here a photo montage of some of these people (Peter Killworth, Peter Rhines, Fred Vine, John Johnson, Dave Stevens, Brian King, Dave Webb, Des Barton, Ian Robinson and Tor Gammelsrød). This is a thank you to them and to all those I aspire to, whose photos could not be fitted in.

I thank the people I have been privileged to work with—my postdocs and Ph.D. students. They are what makes oceanography such fun for me. Thanks to you all for sharing science with me. It is good to see that, unlike the mentors list, here we have some female oceanographers.

What would Wüst make of science today? I am sure he would have been astonished to see women at sea! Another great difference is that now we collaborate across Europe. When he made his groundbreaking voyages between the

two world wars, he could not have imagined that ships would sail full of oceanographers from all nations working together. And that we even have joint funding for projects across Europe.

When you think how hard Wüst and his team must have worked for each measurement of temperature and salinity from a bottle sample, he would be amazed to see the vast data sets that are becoming routine. The Argo network of profiling floats, the WOCE sections, the glider networks out in all weathers—I am sure he would have been as thrilled as we are. We are very lucky—what a great time it is to be an oceanographer!

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