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In memory of Norbert Untersteiner (1926-2012)



The Arctic is losing its sea ice. Today Arctic research lost one of its giants. Norbert Untersteiner passed away on March 14, 2012 at home with his wife Krystyna and son Lukas at his side.

Reports about changes in the Arctic are all over the news. Norbert wasn't a friend of the media frenzy around every new record. However, it is hard to imagine any serious scientific assessment of these changes without encountering the work of Norbert Untersteiner.

Norbert is the father of modern day sea ice physics. He was the station leader of the 1957 International Polar Year Arctic drifting station *Alpha*, the first manned drifting ice station conducted by the West. This experience informed and inspired Norbert's leadership of the [Arctic Ice Dynamics Joint Experiment](#) (AIDJEX) in the early 1970s. This was truly pioneering research that required an ambitious field campaign with up to four manned camps on the drifting pack ice. It paved the way for subsequent numerical models of sea ice used in modern climate models which are used today to predict and understand global climate change. At the conclusion of AIDJEX,

Norbert formed the Polar Science Center (PSC) at the University of Washington. As the Director of PSC from 1981-1988 he inspired the thoughtful integration of logistics, observations, and modeling, used by PSC in advancing Arctic research for more than 30 years.

In 1979 Norbert helped established the Arctic Buoy Program as a contribution to the Global Atmospheric Research Program. This later became the [International Arctic Buoy Program](#) (IABP) which has been providing invaluable data on atmospheric temperature and pressure as well as sea ice drift for the past 33 years. This data set has helped reveal fundamental characteristics of sea ice, arctic climate and weather. IABP data have been used by thousands of researchers all over the world and are routinely used in global weather prediction.

Norbert's career involved appointments in Washington, DC, working with NOAA and ONR advancing the cause of U.S. and international arctic research programs. He served as science advisor to numerous Federal agencies. Norbert's dislike for bureaucracy was always outmatched by his ability to maneuver through it and make things work.

In 1988, Norbert left PSC to join the [Department of Atmospheric Sciences](#) at the University of Washington as its chairman. During his chairmanship, the University of Washington cemented its international leadership in polar research, bringing together expertise from across its campus.

In the mid-1990s, Norbert was again in the game, helping to get the SHEBA research program launched. His experience and insights helped shape this unique research program which involved an ice-breaking ship frozen into the Arctic sea ice for a year. Research from this program has been an immense contribution to climate research.

Norbert retired in 1997, but his contributions to polar research continued until his death. For the last 15 years he led the U.S. MEDEA Committee tasked with releasing, in cooperation with Russia, formerly classified information describing Arctic climate. This effort produced the U.S.-Russian Atlases that reveal just how much the Arctic environment has changed in recent decades. More recently his work with MEDEA yielded public access to previously classified high-resolution satellite images from U.S. spy satellites. His most recent efforts with this group, until just a few months ago, were dedicated to applying a new autonomous platform, "the wave-glider", to Arctic research. An appointment in 1999 as the Chapman Professor of Physical Sciences at the University of Alaska, Fairbanks, kept his teaching skills honed and allowed him to bring many distinguished scientists to Fairbanks as guest lecturers.

Norbert's work has helped transform early concepts of the role of the ice albedo feedback in climate change to

modern climate models. By conducting, guiding, stimulating and coordinating research into the fundamentals of sea ice thermodynamics and dynamics over the course of half a century, he has provided the physical underpinnings for this critical element of the climate system. As a scientist who spent a great deal of time in the field and understood sea ice like no other, he was never satisfied with how climate models represented sea ice. He kept asking hard questions and helped drive improvements.

Norbert remained enthusiastic about science until his death. He was a frequent visitor and regularly called on PSC scientists to talk about some new idea or development. In 2011 he was the co-author of two publications, including a wonderful review about the [state of sea ice research](#) for Physics Today

Anyone who had the pleasure of knowing or working with him will remember him as a gifted scientist, with a quick wit, jocular spirit, and a wonderful intuition for how things work and how to get things done.

We will miss him sorely.

Remembrances to Norbert from a 2009 event can be found [here](#). Details for a memorial service will be forthcoming and posted here.

If you would like to share a memory about Norbert, you can do so in the comment area below.

1.

March 15, 2012 at 3:43 am, **Axel Schweiger** said:

We invite you to share your memories of Norbert below

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