

New Endowed Professorship at KIT: Risks of Extreme Weather Events

Joaquim Pinto's Research Focuses on Regional Climate and Weather Hazards – AXA Research Fund supports a new Chair at the Institute of Meteorology and Climate Research with EUR 1.8 Million



Windstorms cause enormous damage, here in the Black Forest near Baiersbronn (Photo: Markus Breig, KIT)

The windstorm Niklas caused some €750 million damage in March 2015, making it the most expensive loss event for natural hazards in that year in Germany. Overall, storm damage in 2015 in Germany amounted to €1.2 billion (source: Gesamtverband der Deutschen Versicherungswirtschaft GDV (German Insurance Association)). Risks of extreme weather events are in the research focus of meteorologist Joaquim Pinto at Karlsruhe Institute of Technology (KIT). On December 1, he started his new professorship for regional climate and weather hazards, which is supported by the AXA Research Fund with EUR 1.8 million for a term of 13 years.

They have names such as Lothar, Vivian, Wiebke, Kyrill or, as in 2015, Niklas: Winter storms originate from low-pressure systems over the Atlantic Ocean and often move across North-West and Central Europe. As the temperature difference between polar and subtropical latitudes is particularly high in winter, they can develop into dangerous storms. With wind speeds of up to 150 km/h in lowlands and a large spatial extent, winter storms can cause large impacts.



KIT Climate and Environment Center:
For an environment worth living in

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The main goal of Professor Joaquim Pinto's research at KIT's Institute of Meteorology and Climate Research is a better understanding of the relationship between environmental hazards and extreme weather events in Europe, including floods, cold spells and heat waves. "We are investigating both the physical processes leading to the occurrence of extreme weather events as well as the natural variations in their frequency and intensity," says Pinto.

As an AXA Chair holder, he and his team want to develop methods that enable the quantification of possible changes in frequency and intensity on the regional level. Another central topic will be the risk assessment of extreme weather events under current and future climatic conditions. "The AXA Chair for Regional Climate and Weather Hazards will strengthen cooperation between research and insurance industry and in particular the transfer of knowledge in both directions in order to gain a better understanding of hazards associated with weather risks," says Luc de Lignières, Chief Risk Officer for P&C at the AXA Group and sponsor of this AXA Chair.

The AXA Chair strengthens KIT's broad competence and highly successful research in the area of natural risks, which is conducted by e.g. the Center for Disaster Management and Risk Reduction Technology (CEDIM) and the Collaborative Research Center "Waves to Weather." It makes use of these synergies to promote the exploration of environmental risks and contributes to enhancing KIT's strength in this area.

In raising the funding for this new professorship the IMK was supported by the KIT-Stiftung. The foundation's goal is to sustainably promote research, teaching, innovation and academic life at KIT. For further information on the KIT-Stiftung please see: <https://www.stiftung.kit.edu>

Currently, the AXA Research Fund's financial commitment to German research institutions amounts to EUR 6.5 million. In addition to the KIT professorship, this contribution is used to support 24 other life sciences, socio-economic and environmental projects.

About Joaquim Pinto

Joaquim Pinto last worked at the University of Reading and the University of Cologne. His research mainly covers mid-latitude meteorology and climatology, with a special focus on extreme events, regional climate variability in Europe, development of dynamic and statistical approaches to determining regional responses to climate change, diagnosis and modeling of storms in Europe, and assessment of the associated risks. Pinto also conducts research relating to decadal cli-



*Professor Joaquim Pinto
(Photo: private)*

mate projections under the MiKlip project funded by the German Federal Ministry of Education and Research, involving several other KIT scientists.

About the AXA Research Fund

The AXA Research Fund was created in 2007 to boost scientific progress and discoveries that contribute to understanding and better preparing for environmental, life and socio-economic risks. With a commitment of EUR 200 million until 2018, the Fund supports 492 projects led by researchers of 51 nationalities, working in 269 universities in 33 countries. The AXA Research Fund also helps scientists share their knowledge with a wider audience, in order to inform decision-making and actively promote public knowledge about the risks that threaten our societies.

axa-research.org, gallery.axa-research.org, [@AXAResearchFund](https://twitter.com/AXAResearchFund)

AXA Germany

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www.axa.de

More about the KIT Climate and Environment Center:
<http://www.klima-umwelt.kit.edu/english>

Karlsruhe Institute of Technology (KIT) pools its three core tasks of research, higher education, and innovation in a mission. With about 9,300 employees and 25,000 students, KIT is one of the big institutions of research and higher education in natural sciences and engineering in Europe.

KIT – The Research University in the Helmholtz Association

Since 2010, the KIT has been certified as a family-friendly university.

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