Leopoldina
Nationale Akademie
der Wissenschaften

Curriculum Vitae Professor Dr Antje Boetius

Image: Kerstin Rolfes | Alfred Wegener Institute

Name: **Antje Boetius**
Date of birth: **5 March 1967**

Research Priorities: Polar research, biological oceanography, marine microbiology, deep-sea ecosystems, molecular ecology, geomicrobiology

Antje Boetius is a German marine researcher and microbiologist who specialises in questions regarding marine material cycles and biodiversity as well as the investigation of deep-sea ecosystems using underwater robots. Her research currently focuses on the effects of climate change on the Arctic Ocean's biogeochemistry and biodiversity.

Academic and Professional Career

since 2017	Director, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI), Bremerhaven, Germany
2012 - 2018	Vice Director, MARUM Cluster of Excellence, University of Bremen, Bremen, Germany
since 2009	Professor of Geomicrobiology, University of Bremen, Bremen, Germany
2009	Adjunct Distinguished Professor, Jacobs University Bremen, Bremen, Germany
since 2008	Head, Joint Research Group for Deep-Sea Ecology and Technology, Helmholtz Association of German Research Centres and the Max Planck Society, Germany
2003 - 2008	Head, Microbial Habitat Group, Max Planck Institute for Marine Microbiology, Bremen, Germany
2001 - 2008	Professor, International University Bremen (now: Jacobs University Bremen) and Scientific Officer, Geology, AWI, Bremerhaven, Germany
1999 - 2001	Scientific Officer, Max Planck Institute for Marine Microbiology, Bremen, Germany

1996 - 1999	Postdoctoral Fellow, Leibniz Institute for Baltic Sea Research, Warnemünde, Germany
1996	Doctorate, University of Bremen, Bremen, Germany
1993 - 1996	Doctoral Student, AWI, Bremerhaven, Germany
1989 - 1990	Degree in Biological Oceanography, Scripps Institution of Oceanography San Diego, University of California, San Diego, USA
1986 - 1992	Degree in Biology, University of Hamburg, Hamburg, Germany

Functions in Scientific Societies and Committees

since 2023	Member, Forum #Zukunftsstrategie, Federal Ministry of Education and Research
2023	Fellow of the Konrad Adenauer Foundation, Berlin, Germany
2014 - 2020	Chairperson, Steering Committee, Wissenschaft im Dialog (WiD), Berlin, Germany
since 2015	Member, Senate, German Research Foundation (DFG), Germany
2014 - 2016	Chairperson, Scientific Commission, German Science and Humanities Council, Berlin, Germany
since 2014	Member, Senate, Leibniz-Association, Germany
2010 - 2016	Member, German Science and Humanities Council, Berlin, Germany
	Reviewer for numerous journals and awarding authorities

Project Coordination, Membership in Collaborative Research Projects

2015 - 2019	Project “AtlantOS – Towards an integrated All-Atlantic Ocean Observing System”, European Commission
2015 - 2017	Joint Action “Ecological Aspects of Deep-Sea Mining”, Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI Oceans), Federal Ministry of Education and Research (BMBF), Germany
2014 - 2020	Coordinator, Project “FRAM – FRontiers in Arctic marine Monitoring: Permanent Observations in a Gateway to the Arctic Ocean”, AWI Bremerhaven, Germany
2013 - 2018	Helmholtz Alliance “Robotic Exploration of Extreme Environments – ROBEX”, AWI Bremerhaven, Germany
2012 - 2017	Advanced Grant “ABYSS (Assessment of Bacterial Life and Matter Cycling in Deep-Sea Surface Sediments)”, European Research Council (ERC)
2009 - 2018	Gottfried Wilhelm Leibniz Programme, DFG, Germany

2009 - 2018	Cluster of Excellence, MARUM – Centre for Marine Environmental Sciences, University of Bremen, Bremen, Germany
2009 - 2015	Project “BIOACID: Biological Impacts of Ocean Acidification”, Federal Ministry of Education and Research (BMBF), Germany
2009 - 2010	Expedition MERIAN, DFG, Germany
2007 - 2008	Expedition METEOR, DFG, Germany

Honours and Awarded Memberships

2022	Professor of the Year, German Association of University Professors and Lecturers (DHV)
2022	Carl-Friedrich-von-Weizsäcker-Prize, German National Academy of Sciences Leopoldina and Stifterverband
2021	Award of the Klüh Foundation for Further Research into Climate Change, Klüh Foundation, Düsseldorf, Germany
since 2021	Foreign Member, Class for Biosciences, Royal Swedish Academy of Sciences, Sweden
2021	Mercator-Professor, The University of Duisburg-Essen, Duisburg/Essen, Germany
2019	Order of Merit of the Federal Republic of Germany
2019	Robert L. and Bettie P. Cody Award in Ocean Sciences, Scripps Institution of Oceanography, La Jolla, USA
2019	Leibniz-Ring-Hannover, Presse Club Hannover, Hanover, Germany
2018	German Environmental Award, The German Federal Environmental Foundation (DBU), Germany
2018	Communicator Award, DFG, Germany
2017	Copernicus Medal, Copernicus Gesellschaft, Göttingen, Germany
2017	Carl Friedrich Gauß Medal, Braunschweig Scientific Society, Braunschweig, Germany
since 2016	Member, European Academy of Sciences
since 2015	Member, European Academy of Microbiology (EAM)
2014	Hector Science Award and Hector Fellow, Hector Foundation, Weinheim, Germany
since 2014	Member, European Molecular Biology Organization (EMBO)
2014	Gustav Steinmann Medal, Deutsche Geologische Gesellschaft (DGGV), Germany
2014	Excellence Professorship, Prof. Dr. Werner-Petersen Foundation, Kiel, Germany
2014	Fellow, American Geophysical Union (AGU), USA

2013	ECI Prize, International Ecology Institute (ECI)
2012	Heinrich-Hertz Visiting Professor, Karlsruhe Institute for Technology (KIT), Karlsruhe, Germany
since 2011	Member, Academy of Sciences and Literature Mainz, Mainz, Germany
since 2010	External Scientific Member, Max Planck Society, Munich, Germany
2009	Gottfried Wilhelm Leibniz Prize, DFG, Germany
since 2009	Member, German National Academy of Sciences Leopoldina, Germany
2006	Médaille de la Société d'océanographie de France, Société d'océanographie de France, France
1986 - 1989	Scholarship Student, German Academic Scholarship Foundation, Germany

Research priorities

Antje Boetius is a German marine researcher and microbiologist who specialises in questions regarding marine material cycles and biodiversity as well as the investigation of deep-sea ecosystems using underwater robots. Her research currently focuses on the effects of climate change on the Arctic Ocean's biogeochemistry and biodiversity.

Director of the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI) in Bremerhaven, she is currently focusing on the effects of climate change on the biogeochemistry and biodiversity of the Arctic Ocean. Antje Boetius researches microorganisms that live on parts of the ocean floor and have a sizeable, long-term impact on the earth system. Large amounts of methane develop in the deep sea, which is stored as methane hydrates in the ocean floor or escapes as gas. Antje Boetius discovered microbial communities that break down a large part of this methane without needing oxygen to do so. This process is of great significance for methane flows in the oceans as well as for the climate system. After all, these microbial communities prevent large amounts of the greenhouse gas methane, 25 times more harmful for the climate than CO_2, from escaping into the atmosphere. Antje Boetius was the first to be able to assign previously unknown microorganisms to this process of anaerobic methane oxidation, AOM for short. She is currently investigating the diversity of deep-sea communities beneath the Arctic ice as well as the effects on the sea floor's ecosystem when polymetallic nodules are removed.

Boetius' work decisively contributes to the understanding of a significant process in the global climate cycle. The earth scientist is currently investigating the deep-sea organisms beneath the Arctic ice and the effects of global warming on polar ecosystems.

The majority of Antje Boetius' work takes place on the high seas. Since 1989 she has participated in some 50 expeditions on German and foreign research ships and taken and analysed probes using numerous innovation methods.