

Biography

University training

- Studies of Physics, Mathematics and Geophysics at Kiel University, 1953 – 1960
- Dr. rer. nat., Physics, Kiel University, 1960
- Habilitation, Oceanography and Geophysics, Kiel University, 1966

Professional positions

- Research Scientist, Institut für Meereskunde, Kiel, Germany, 1960 – 1998
- Director of Marine Physics Dept., Institut für Meereskunde, Kiel, 1969 – 1998
- Professor of Physical Oceanography, Kiel University, from 1969
- Director of Institut für Meereskunde, Kiel University, 1976 – 1978
- Dean of Faculty of Mathematics and Sciences, Kiel University, 1991 – 1992
- Emeritus Professor, Institut für Meereskunde, Kiel, Germany, from 1998
(from 2004: Leibniz Institute of Marine Sciences Kiel;
from 2012: Helmholtz Centre for Ocean Research Kiel)

Visiting appointments

- Woods Hole Oceanographic Institution (WHOI), U.S.A., 1967 – 1968, 1971 – 1972, 1983
- Visiting Associate Professor, Joint Graduate Student Program, Massachusetts Institute of Technology (MIT) and WHOI, U.S.A., 1968
- Joint Institute for Marine and Atmospheric Research, University of Hawaii, U.S.A., 1984, 1985 and 1994
- LODYC, Université Pierre et Marie Curie, Paris, France, 1989
- CIMAS, University of Miami and NOAA/AOML, U.S.A., 1990
- Jet Propulsion Laboratory, Pasadena, U.S.A., 1990
- Laboratoire de Physique des Océans, IFREMER, Centre de Brest, France, 1994
- Universidad de Concepción, Chile, 1998
- Institute of Marine Sciences (ICCM), Telde, Spain, 1998-2000
- Visiting Professor, International Pacific Research Center, University of Hawaii, U.S.A., 2000
- Alexander-von-Humboldt Researcher, University of Cape Town, South Africa, 2005, 2006, 2007

Teaching in physical oceanography

- Kiel University, Germany (from 1966).
- WHOI/MIT, U.S.A. (1968).
- International Centre for Theoretical Physics, Trieste, Italy, International Course on the Physics of Oceans and Atmosphere (1975).
- Hamburg University, Germany (1976/77).
- Diretoria de Hidrografia e Navegação, Rio de Janeiro, Brazil: Course on "Management in Marine Science" (1980).
- Universidad de la Laguna, Cursos Internacionales de Verano, Yaiza, Lanzarote, Spain (1992).
- Universidad de Las Palmas de Gran Canaria, Curso de Invierno, Las Palmas, Gran Canaria, Spain (1998).
- Universidad de Concepción, Chile: Curso Internacional de Postgrado en Oceanografía (1998).

International appointments

Scientific Committee on Oceanic Research (SCOR) of the International Council of Science (ICSU):

- Working Group 21 "Current meter intercomparison"
Member 1966 – 1974
- Working Group 34 "Internal dynamics of the ocean"
Member 1976 – 1982
- Working Group 43 "Oceanography related to the GARP Atlantic Tropical Experiment (GATE)",
Chair 1972 – 1978
- SCOR Vicepresident 1980 – 1983; President 1983 – 1988, Past-President 1988 - 1992

International Association for the Physical Sciences of the Oceans (IAPSO)

of the International Union of Geodesy and Geophysics (IUGG):

- Vicepresident 1975 - 1979

Comité Scientifique du Programme National d'Etude de la Dynamique du Climat (PNEDC), France:

- Member 1988 – 1992

Scientific Steering Group of the "World Ocean Circulation Experiment" (WOCE):

- Member of the Executive, 1989 - 1993

Woods Hole Oceanographic Institution, USA,

- Visiting Committee Member 1992

European Commission, Brussels Mid-Term Evaluation Panel, Marine Science and Technology Program

- Member 1995

National appointments

Deutsche Forschungsgemeinschaft

(DFG, German Research Foundation):

- Senatskommission für Wasserforschung (Commission for Water Research)
Member 1968 – 1977
- Senatskommission für Ozeanographie (Commission for Oceanography)
Member 1974 – 1995, Chair 1986 - 1995
- German SCOR Committee
Member 1975 – 1995, Chair 1980 - 1995
- Committee for the German meteorological research aircraft
Member from 1978
- Physics Committee, (Oceanography and Physics of the Atmosphere)
Elected referee 1980 - 1988

Bundesministerium für Forschung und Technologie

(BMFT, Federal Ministry for Science and Technology)

- Committee for Research Vessels and Underwater Systems
Member 1969 - 1971
- Committee for Measurement Technology
Member 1970 – 1973
- Committee for Permanent Buoy Stations in the North and Baltic Seas
Member 1974 – 1975
- Commission for Marine Research and Ocean Technology
Member 1975 – 1978
- German-Brazilian bilateral research programs in ocean science and technology
Coordinator 1983 - 1989
- German WOCE Committee
Chair 1986 - 1989

GKSS Research Center

Technical and Scientific Advisory Board

- Member 1976 – 1981

Scientific experience

- Research on ocean circulation and climate, boundary currents, oceanic fronts, flow through straits, mixing processes and internal waves
- Instrument development
- Thesis advisor to about 80 diploma and doctoral students
- 28 major cruises with research vessels, mostly as chief scientist

Awards

- Dedicated special volume: *New Views of the Atlantic: A Tribute to Gerold Siedler*, *Topical Studies in Oceanography, Deep Sea Research II*, 1999.
- Alexander von Humboldt - Research Award 2004/2005, National Research Foundation, South Africa.

Member of steering committees or convener of 14 international assemblies, among them:

- "Joint Oceanographic Assembly", Tokyo, Japan, Convener for the "Symposium on engineering problems in monitoring the ocean", 1970.
- "Joint Oceanographic Assembly", Acapulco, Mexico, President of lead sponsoring organisation SCOR, 1988.
- "International WOCE Scientific Conference", Unesco, Paris, France, Chairman, 1988.
- "European Geophysical Society, XV General Assembly", Copenhagen, Denmark, Convener of the symposium "Ocean Circulation and the Heat Budget", 1990.
- "The South Atlantic: Present and Past Circulation", SCOR/TOS/WOCE, Bremen, Germany, Member of Scientific Committee, 1994.
- "Konstantin Fedorov Memorial Symposium: Oceanic Fronts and Related Phenomena", St. Petersburg, Russia, Member of the International Scientific Committee, 1998.
- "The Conference of the World Ocean Circulation Experiment: Ocean Circulation and Climate", Halifax, Canada, Chairman of the Science Organizing Committee, 1998.

Lectures

About 200, among them:

- 23.04.1990 XV General Assembly, European Geophysical Society, Kopenhagen, Denmark, "Seasonal changes of flow fields and heat storage in the eastern tropical Atlantic."
- 15.05. 1990 Institut für Meereskunde, Warnemünde, "Eigenschaften langer Strömungszeitreihen."
- 06.08. 1990 Oceanographic Institute of the University of Sao Paulo, Brasilien, "Gyre dynamics and heat transport."
- 04.12. 1990 University of Las Palmas, Gran Canaria, Spain, "Physics of the ocean: new developments and international programmes." (invited)
- 14.08. 1991 XX.General Assembly, Vienna, Austria. International Union for Geodesy and Geophysics, "Circulation and atmospheric forcing in the eastern tropical Atlantic Ocean."
- 28.03. 1994 International Association for the Physical Sciences of the Ocean. Symposium: "Interbasin Exchanges in the Southern Hemisphere." Cape Town, South Africa, "Exchanges across the WOCE South Atlantic heat flux line A10." (invited)
- 17.06. 1994 IFREMER, Centre de Brest, Laboratoire de Physique des Océans, Brest, France, "Long-term changes in the upper North Atlantic heat content."
- 21.06. 1994 Laboratoire des Ecoulements Geophysiques et Industriels, Institut de Mécanique de Grenoble, Grenoble, France, "On the South Atlantic circulation."
- 01.09. 1994 University of Honolulu, Honolulu, Hawaii, USA, "Near-decadal changes of North Atlantic heat content."
- 08.08. 1995 International Association for the Physical Sciences of the Ocean, XXI General Assembly, Honolulu, Hawaii, USA, "Circulation and Meridional Heat Fluxes in the South Atlantic." (invited)
- 01.10. 1996 Centre ORSTOM Nouméa, New Caledonia, "Circulation in the South Atlantic – results from WOCE."

- 31.03. 1998 Ciclo de Conferencias, University of Concepción, Chile, "The Global Ocean Circulation and the role of the South Atlantic."
- 18.05. 1998 Konstantin Fedorov Memorial Symposium "Oceanic Fronts and Related Phenomena", St. Petersburg/Pushkin, Russia, "Subtropical fronts: structure and processes".
- 27.04. 2000 Instituto de Ciencias Marinas, Telde, Spain, "The path of the Antarctic Intermediate Water from the Southern Ocean to the Canary region".
- 14.09. 2000 University of Hawaii, USA, "The South Atlantic: Passage for the Global Thermohaline Circulation"
- 02.11. 2000 University of Hawaii, International Pacific Research Center, USA, "Pathways of intermediate and deep waters in the equatorial West Pacific"
- 26.09. 2005 SANCOR Seminar, University of Cape Town, South Africa, „Is there something like a mean current in the open ocean?“
- 24.10. 2005 SANCOR Seminar, University of Cape Town, South Africa, „Connecting observations and model results: a case study from the West Pacific“
- 15.05. 2006 Herder-Gymnasium, Rendsburg, "Der Ozean und unser Klima"
- 09.10. 2006 SANCOR Seminar, University of Cape Town, South Africa, "Subtropical countercurrents in the global ocean"
- 28.05. 2007 SANCOR Seminar, University of Cape Town, South Africa, "The East Madagascar Current revisited"
- 10.03. 2008 Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Frontier Research Center for Global Change (FRCGC), Yokohama, Japan, "Upper-ocean countercurrents in the subtropical oceans"
- 11.03. 2008 University of Tokyo, Department of Earth and Planetary Science, Tokyo, Japan "Circulation in the source region of the Agulhas Current"
- 18.03. 2008 University of Hawaii, International Pacific Research Center and International Center for Climate and Society, Honolulu, USA, "Western boundary currents and the subtropical countercurrent in the southern Indian Ocean"
- 28.03. 2008 Columbia University, Lamont-Doherty Earth Observatory, New York, USA, "Circulation in the source region of the Agulhas Current"
- 23.10.2008 Woods Hole Oceanographic Institution, Woods Hole, USA, "Properties of western boundary flow in the South Indian Ocean"

Membership in professional societies:

- German Physical Union
- German Meteorological Union
- German Geophysical Union
- American Geophysical Union, U.S.A.
- Oceanography Society, U.S.A.
- American Association for the Advancement of Science, U.S.A.

Publications

77 papers in reviewed journals, among them:

SIEDLER, G., M. ROUAULT, A. BIASTOCH, B. BACKEBERG, C. J. C. REASON, and J. R. E. LUTJEHARMS (2009), Modes of the southern extension of the East Madagascar Current, *J. Geophys. Res.*, 114, C01005, doi:10.1029/2008JC004921

SIEDLER, G., M. ROUAULT, and J. R. E. LUTJEHARMS (2006): Structure and origin of the subtropical South Indian Ocean Countercurrent. *Geophys. Res. Lett.*, 33, L24609, doi:10.1029/2006GL027399.

ZENK, W., G. SIEDLER, A. ISHIDA, J. HOLFORT, Y. KASHINO, Y. KURODA, T. MIYAMA, T. J. MÜLLER (2005): Pathways and variability of the Antarctic Intermediate Water in the western equatorial Pacific. *Progress in Oceanography*, 67, 245-281.

SIEDLER, G., L. ARMI, T. J. MÜLLER (2005): Meddies and decadal changes at the Azores Front from 1980 to 2000. *Deep-Sea Research II*, 52 (3-4), 583-604.

SIEDLER, G., HOLFORT, J., ZENK, W., MÜLLER, T.J. and CSERNOK, T. (2004): Deep water flow in the Mariana and Caroline Basins. *J. Phys. Oceanogr.*, 34(3), 566-581. 5

VANICEK, M. and G. SIEDLER (2002): Zonal fluxes in the deep layers of the western South Atlantic Ocean. *J. Phys. Oceanogr.*, 32 (8), 2205-2235.

- HOLFORT, J, and G. SIEDLER (2001): The meridional oceanic transport of heat and nutrients in the South Atlantic. *J. Phys. Oceanogr.*, 31, 5-29.
- SCHMID, C., G. SIEDLER and W. ZENK (2000): Dynamics of Intermediate Water Circulation in the Subtropical South Atlantic. *J. Phys. Oceanogr.*, 30, 3191-3211.
- ZENK, W., G. SIEDLER, B. LENZ and N. HOGG (1999): Antarctic Bottom Water flow through the Hunter Channel. *J. Phys. Oceanogr.*, 29(11), 2785 - 2801.
- HOGG, N., G. SIEDLER and W. ZENK (1999): Circulation and Variability at the Southern Boundary of the Brazil Basin. *J. Phys. Oceanogr.*, 29, 145 -157.
- KLEIN, B., R.L. MOLINARI, T.J. MÜLLER und G. SIEDLER (1995): A transatlantic section at 14.5N: Meridional volume and heat fluxes. *J. Mar. Res.*, 53 (6), 929-957.
- KLEIN, B. und G. SIEDLER (1995): Isopycnal and diapycnal mixing at the Cape Verde Frontal Zone. *J. Phys. Oceanogr.*, 25 (8), 1771-1787.
- ROSSBY, T., G. SIEDLER and W. ZENK (1995): The Volunteer Observing Ship and Future Ocean Monitoring. *Bull. Am. Meteorol. Soc.*, 76 (1), 5-11.
- SPEER, K.G., G. SIEDLER und L. TALLEY (1995): The Namib Col Current. *Deep-Sea Res.* I, 42 (11/12), 1933-1950.
- ZLOTNICKI, V., G. SIEDLER und B. KLEIN (1993): Can the weak surface currents of the Cape Verde Frontal Zone be measured with Altimetry? *J. Geophys. Res.*, 98(C2), 2485-2493.

24 contributions to books or special volumes as editor or author, among them:

- SPRINTALL, J., SIEDLER, G., and MERCIER, H. (2013): Interocean and Interbasin Exchanges. In: Siedler, G., Griffies, S. M., Gould, J., and J. A. Church (eds), 2013: *Ocean Circulation and Climate – A 21st Century Perspective*. Elsevier - Academic Press, Amsterdam, 493 – 518.
- SIEDLER, G., S.M. GRIFFIES, J. GOULD, and J.A. CHURCH (Eds.) (2013): *Ocean Circulation and Climate – A 21st Century Perspective*. Elsevier - Academic Press, Amsterdam, 868 pp.
- SIEDLER, G. (2007): Defant, Albert Josef Maria. In: Koertge, N. (Ed.), *New Dictionary of Scientific Biography*, Charles Scribner's Sons, New York, vol.2, 263-267.
- BOEBEL, O., G.SIEDLER and J.R.E. LUTJEHARMS (Guest editors) (2005): Direct observations of oceanic flow, a tribute to Walter Zenk. *Deep-Sea Research II*, 52 (3-4), 375-664.
- SIEDLER, G., J. CHURCH and J. GOULD (Eds.), 2001: *Ocean Circulation and Climate: Observing and Modelling the Global Ocean*. Academic Press, San Diego, London, 715 pp.
- SIEDLER, G. und W. ZENK (1997): *Physikalische Ozeanographie*. In W. Raith (Ed.): Bergmann-Schaefer, *Lehrbuch der Experimentalphysik*, Band 7, Erde und Planeten, de Gruyter, Berlin, Kapitel 2, 53-130 (2.überarb. Auflage: 2001)
- WEFER, G., W.H. BERGER, G. SIEDLER and D.J. WEBB (Eds.) (1996): *The South Atlantic: Present and Past Circulation*. Springer Verlag, Berlin, Heidelberg, 644 p.
- SIEDLER, G. und R. ONKEN (1996): Eastern Recirculation. In: W. Krauss (Ed.), *The Warmwatersphere of the North Atlantic Ocean*, Gebrüder Borntraeger, Berlin, Stuttgart, Ch. 1, 339-364.
- SIEDLER, G. und H. PETERS (1986): Properties of sea water, Physical properties (general). In: LANDOLT-BÖRNSTEIN, *Numerical Data and Functional Relationships in Science and Technology*, New Series, Oceanography, (Ed. J. SÜNDERMANN), V/3a, 233-264.
- DIETRICH, G., K. KALLE, W. KRAUSS und G. SIEDLER (1980): *General Oceanography*. 2nd revised edition, J. Wiley, New York, 626 pp.