



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

1. Contact details and personal information

Name:	Temel Oguz	Phone:	+90 324 521 2150
Role/function¹:	University Professor	Fax:	+90 324 521 2327
Institution:	Middle East Technical University	E-Mail:	oguz@ims.metu.edu.tr
Department:	Institute of Marine Sciences	Website:	http://www.ims.metu.edu.tr/cv/oguz/main.html
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¹ **Role/function** e.g. working group leader, managing director, postdoc, PhD etc.

² **Organisation type** e.g. university, research institution, small and medium enterprise (SME), industry etc.

Working Group:	<input type="checkbox"/> 1 Material Technologies <input type="checkbox"/> 2 Biotechnology, Genomics and Food <input type="checkbox"/> 3 Energy <input type="checkbox"/> 4 Information and Communication Technologies <input checked="" type="checkbox"/> 5 Environmental Protection, Climate Change and Sustainable Development
Areas of activity:	<input checked="" type="checkbox"/> research <input type="checkbox"/> training <input type="checkbox"/> technology development <input type="checkbox"/> dissemination <input type="checkbox"/> demonstration <input type="checkbox"/> other:
Keywords characterising your area of research:	Please choose the appropriate key words (max. 5) from the following list: http://www.cordis.lu/fp6/keywords



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**Expertise,
technologies and
infrastructures
available in your
institution:**

Research activities / expertise: Research on marine physics, biology, chemistry.

Methods: Modelling and observations

Key technologies: High technology equipments on measurements of water physical and biochemical properties

Infrastructures: adequate laboratory facilities, and a Research Vessel (RV Bilim)

Key publications: Below some recent personal publications are given.

- 1) T.Oguz and D.Gilbert (2007) Abrupt transitions of the top-down controlled Black Sea pelagic ecosystem during 1960-2000: evidence for regime-shifts under strong fishery exploitation and nutrient enrichment modulated by climate-induced variations. To appear in Deep Sea Res.I
- 2) Oguz, T. , J. W. Dippner, Z. Kaymaz (2006) Climatic Regulation of the Black Sea hydro-meteorological and ecological properties at interannual-to-decadal time scales. J. Marine Systems, 60,235-254.
- 3) Oguz, T. , and A. Merico (2006) Factors controlling the summer *Emiliana huxleyi* bloom in the Black Sea: a modeling study. J. Marine Systems, 59, 173-188.
- 4) Oguz, T. and D. Ediger (2006) Comparison of in situ and satellite-derived chlorophyll pigment concentrations, and impact of phytoplankton bloom on the suboxic layer structure in the western Black Sea during May–June 2001. Deep Sea Res.II, 53, 1923-1933.
- 5) G. Korotaev, T. Oguz, S. Riser (2006) Intermediate and deep currents of the Black Sea obtained from autonomous profiling floats. Deep Sea Res. II, 53, 1901-1910.
- 6) Oguz, T. (2005a) Long term impacts of anthropogenic and human forcing on the reorganisation of the Black Sea ecosystem. Oceanography, 18(2), 112-121.
- 7) Oguz, T. (2005b) Black Sea ecosystem response to climatic variations. Oceanography, 18(2), 122-133.
- 8) Oguz, T. and S. Jilan (2005) "Semi-enclosed seas, Islands and Australia (s)". The Sea, Vol. 14, Chapter 4, 83-116.
- 9) Oguz, T., S. Tugrul, A.E. Kideys, V. Ediger, N. Kubilay (2005) "Physical and biogeochemical characteristics of the Black Sea". The Sea, Vol. 14, Chapter 33, 1331-1369.
- 10) Cokacar, T., T. Oguz, N. Kubilay (2004). Satellite-detected early summer coccolithophore blooms and their interannual variability in the Black Sea. Deep-Sea Res. I, 1017-1031.
- 11) Konovalov, S., A. Samodurov, T. Oguz, L. Ivanov (2004). Parameterization of iron and manganese cycling in the Black Sea suboxic and anoxic environment. Deep-Sea Res. I, 2027-2045.
- 12) Agostino, M., T. Tyrrell, T. Oguz, at all, (2004). Modelling phytoplankton succession on the Bering Sea shelf: role of climate influences and trophic interactions in generating *Emiliana huxleyi* blooms 1997-2000. Deep Sea Res. I, 1803-1826.



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2. Past and present research collaborations

Are you familiar with the European Framework Programme?	<input checked="" type="checkbox"/> Yes <div style="float: right;"><input type="checkbox"/> No</div> <input type="checkbox"/> with Framework Programme 5 <input checked="" type="checkbox"/> with Framework Programme 6 <input checked="" type="checkbox"/> with Framework Programme 7
EU-projects you are involved in:	Programme title / contract number / title / acronym / your function (coordinator / partner / contractor) Past projects ARENA Project (partner and a work package leader) Present projects Eur-Oceans, ASCABOS SESAME (about to start November 2006)
Other international collaborations:	I have numerous contacts and collaborations with institutions from Europe and USA.
Name(s) and contact details of potential partners:	If you would like to suggest the participation of particular partners from the partner country based on existing contacts or collaboration experience, you are welcome to indicate their names and contact details below: Dr. Andreas Oschlies (aoschlies@ifm-geomar.de) Dr. Kai Wirtz (Kai.Wirtz@gkss.de) ✓

3. Presentation at the Workshop

I will give a presentation at the workshop (approx. 10 min.) to present my institution, my expertise, and my collaboration interests. The contents of my presentations is summarised below (max. 1 page).

Temel Oguz is a professor of Physical-Dynamical Oceanography at Institute of Marine Sciences, Middle East Technical University, interested in climate change research, ocean circulation dynamics and ecosystem-environmental modelling. He is mostly known with his research on the Black Sea circulation and ecosystem dynamics. He is a member of the Institute of Marine Sciences of Middle East Technical University. The Institute has long-lasting collaboration with various research groups in Europe and USA. Prof. Oguz is an Editorial Board Member of Journal of Marine Systems, Turkish Representative of International SCOR (Scientific Committee on Ocean Research), Working Group Member of International SCOPE (Scientific Committee on Problems of the Environment) "Dynamics of semi-enclosed marine ecosystems-PACKMEDS" initiative, Working Group Member of ESF (European Science Foundation) "Climate Change Impacts on the European Marine and Coastal Environment" panel, SCOR (Scientific Committee on Ocean Research) "Coastal Hypoxia" Working Group member, Intergovernmental Oceanographic Commission (IOC) Capacity Building Program Committee member. He recently organized an international summer school in Ankara (14-26 August 2006) on "Climate Change impacts on marine ecosystems", funded by NATO-ASI, EU 6th Framework Eur-Ocean Project and TÜBİTAK.

His interest of Collaboration with German scientists: The Black Sea has experienced a series of successive shocks in the strongest possible way from the mid-1970s to the mid-1990s in response to a suite of environmental disturbances. Intense eutrophication, strong decadal scale climatic cooling/warming, population outburst of opportunistic species and gelatinous carnivores, over-exploitation of fish stocks have concomitantly introduced stresses on the ecosystem far more severe than those encountered in many other semi-enclosed, marginal and shelf seas. The system responded to each of them by re-organizing its food web structure rapidly and differently. A quantitative mechanistic understanding of these long-term ecological changes has an utmost importance to assess the future behaviour of the ecosystem functioning in terms of eutrophication level and sustainability of fish stocks. We propose to carry out retrospective data analysis and



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modelling studies

(1) to explore the changes that took place in the Black Sea ecosystem under concurrent effects of climatic changes, anthropogenic nutrient enrichment, temporal outburst of gelatinous species, overexploitation of small pelagic stocks in terms of the identification of regime shifts, and trophic controls,

(2) to elaborate the individual role of each forcing mechanism on these changes, and to validate and come up with solid explanations governing the trophic controls and food web structural changes,

(3) to predict its possible future state during the next 10 years under some specific scenarios of climate change, anthropogenic nutrient loading and fishing pressure.

The proposed study represents a truly interdisciplinary research approach based on the systematic analysis of available data and model simulations, involving ecosystem research, climate-change studies, physical and biological oceanography and ocean biogeochemistry.

He has already established contacts with two leading German scientists whom Prof. Oguz knows personally. Their addresses are given below

- 1) **Dr. Andreas Oschlies**, Leibniz-Institut für Meereswissenschaften, Ocean Circulation and Climate Dynamics- Theory and Modelling -Düsternbrooker Weg 20, D-24105 Kiel, Germany.
E-mail: aoschlies@ifm-geomar.de.
- 2) **Dr. Kai Wirtz**, Dr. Kai Wirtz, ICBM, University of Oldenburg, P.O.Box 25 03, 26111 Oldenburg, Germany, Tel:+49-(0)441-36116-257, Fax: +49-(0)441-798-3404,
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I agree with the publication of my data on the Workshop website!

PLEASE FILL IN THIS FORM UNTIL 22 SEPT. 2006 AND RETURN IT TO:

Internationales Büro des BMBF
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Christian.schache@dlr.de

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