



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: | Dr. Heinz Günther | Phone: | ++49 4152 87 1504 |
| Role/function¹: | Head of Department | Fax: | ++49 4152 87 1565 |
| Institution: | Inst. for Coastal Research GKSS Research Center Geesthacht | E-Mail: | Guenther@gkss.de |
| Department: | Model and Data Assessment | Website: | www.gkss.de |
| Address: | Max Planck Straße 1 | Organisation type²: | research institution |
| Postcode and City: | D-21502 Geesthacht | | |

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 checked="" type="checkbox"/> technology development <input type="checkbox"/> demonstration | <input checked="" type="checkbox"/> training <input type="checkbox"/> dissemination <input type="checkbox"/> other: |
| Keywords characterising your area of research: | <p>Please choose the appropriate key words (max. 5) from the following list: http://www.cordis.lu/fp6/keywords</p> <p>Coastal zone management, Climate change, Observing systems and operational forecasting, Environmental monitoring</p> | |



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

Research activities / expertise: The GKSS Forschungszentrum Geesthacht GmbH (GKSS) is one of 15 members of the German Helmholtz Association of National Research Centres. GKSS is situated at Geesthacht near Hamburg and has a branch in Teltow near Berlin with a total staff of approximately 750 employees, including about 420 scientists, engineers and technicians. One of the main GKSS research area covers environmental research focussing on *research for managing the coastal zone*; and is closely embedded in research programmes of the Helmholtz Association. GKSS organisational structure is based on project management principles, which promote networking of GKSS's activities internally and in particular with external partners. The latter include research institutes, universities, communities, private and public companies at both the national and international levels. Research at GKSS is problem- and user-oriented and covers basic as well as applied research including the establishment of both technical and commercial prototypes. About 76 % of GKSS's annual budget (74,6 mill. Euro in 2003) is provided by the national federal and states governments, while 24 % are generated via EU and national research projects, contract research, and licensing of GKSS patents for products and processes. High-level training and education for e.g. students, PhD-students, and post-docs play an important role at GKSS and is provided by numerous of its institute and department leaders, several of which being part-time affiliated to universities in Germany and abroad. GKSS has gained experience for years and has cultivated a successful tradition in both the co-ordination of and participation in different types of EU research projects. Since the year 2000, researchers at GKSS have coordinated more than 20, and have participated in more than another 75 EU-funded research projects in the frame of FP5 and FP6 priority programmes

The Institute for Coastal Research (IfK) is divided into two distinct sections, "System Analysis and Modeling" and "Development of Operational Systems". The Land-Ocean Interactions in the Coastal Zone (LOICZ) office is assigned to the IfK. The Research activities span both the natural and human dimensions of coastal dynamics, analysing the coastal system in global and regional contexts, conducting assessments of the state and sensitivity of the coastal system to natural and human influences, developing scenarios of future coastal options, and developing reliably and cost-effectively monitor coastal processes.

Methods:

- Development and application of various numerical models of environmental components,
- Application of extensive statistical analysis,
- In-situ and remotely sensed data collection and analysis,
- Analysis of chemicals in the environment.

Key technologies: mainframe computers, a research vessel and environmental monitoring facilities

Infrastructures: GKSS maintains central administrative, financial, legal and project management departments providing for full support to its researchers in all related issues.

Key publications:

Dankert, H.; Rosenthal, W.: Ocean Surface Determination from X-band Radar-Image Sequences. In: Journal of Geophysical Research C. Vol. 109 (2004) C04, C04016.

Ebinghaus R.; Temme C.; Lindberg S.E.; Scott K.J.: Springtime accumulation of atmospheric mercury in polar ecosystems. In: J. Phys. IV France 121 (2004) 195-208.

Jones, J.M.; Widmann, M.: Atmospheric science: Early peak in Antarctic



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oscillation index. In: *Nature*. Vol. 432 (2004) 7015, 290 – 291.

Storch, H.v.; Zorita, E.; Jones, J.; Dimitriev, Y.; Gonzalez-Rouco, F.; Tett, S.:
Reconstructing Past Climate from Noisy Data. In: *Science*. Vol. 306 (2004) 5696,
679 - 682.

Callies, U.: Interaction structures analysed from water-quality data. In: *Ecological Modelling* 187 (2005), 474 – 490.

Dankert, H.; Horstmann, J.; Rosenthal, W.: Wind- and Wave-Field
Measurements using Marine X-Band Radar-Image Sequences. In: *IEEE Journal of Oceanic Engineering*. Vol. 30 (2005) 3, 534 - 542.

Feser, F.; Storch, H.v.: A spatial two-dimensional discrete filter for limited-area-
model evaluation purposes. In: *Monthly Weather Review*. Vol. 133 (2005) 6, 1774
- 1786.

Fischer-Bruns, I.; Storch, H.v.; Gonzalez-Rouco, J.F.; Zorita, E.: Modelling the
variability of midlatitude storm activity on decadal to century time scales. In:
Climate Dynamics. Vol. 25 (2005) 5, 461 – 476.

Guibert, S.; Matthias, V.; Schulz, M.; Boesenberg, J.; Eixmann, R.; Mattis, I.;
Pappalardo, G.; Perrone, M.R.; Spinelli, N.; Vaughan, G.: The vertical distribution
of aerosol over Europe - synthesis of one year of EARLINET aerosol lidar
measurements and aerosol transport modeling with LMDzT-INCA. In:
Atmospheric Environment . Vol. 39 (2005) 16, 2933 - 2943.

Knispel, T.; Ruhnau, C.; Lassen, S.; Griesel, S.; Prange, A.; Denkhaus, E.: Nickel
species analysis of human colonic tissue using liquid chromatography, gel
electrophoresis and mass spectrometry. In: *Analytical and Bioanalytical
Chemistry*. Vol. 383 (2005) 404 - 413.

Kock, H.H.; Bieber, E.; Ebinghaus, R.; Spain, T.G.; Thees, B.: Comparison of
long-term trends and seasonal variations of atmospheric mercury concentrations
at the two European coastal monitoring stations Mace Head, Ireland, and Zingst,
Germany. In: *Atmospheric Environment* . Vol. 39 (2005) 39, 7549 – 7556.

Onken, R.; Robinson, A.R.; Kantha, L.; Lozano, C.J.; Haley, P.J.; Carniel, S.: A
Rapid Response Nowcast / Forecast System using Multiply Nested Ocean
Models and Distributed Data Systems. In: *Journal of Marine Systems*. Vol. 56
(2005) 1-2, 45 - 46.

Pielke, R.; Agrawala, S.; Bouwer, L.M.; Burton, I.; Changnon, S.; Glantz, M.H.;
Hooke, W.H.; Klein, R.J.T.; Kunkel, K.; Mileti, D.; Sarewitz, D.; Thompkins, E.L.;
Stehr, N.; Storch, H.v.: Comments. Clarifying the Attribution of Recent Disaster
Losses: A Response to Epstein and McCarthy. In: *Bulletin of the American
Meteorological Society*. Vol. 86 (2005) 10, 1481 - 1483.

Pleskachevsky A; Gayer, G; Horstmann, J.; Rosenthal, W.: Synergy of satellite
remote sensing and numerical modelling for monitoring of suspended matter.
Ocean Dynamics, Vol. 55 (2005), pp. 2-9

Prange, A.; Proefrock, D.: Application of CE-ICP-MS and CE-ESI-MS in
Metalloproteomics - Challenges, Developments and Limitations. In: *Analytical and
Bioanalytical Chemistry*. Vol. 383 (2005) 3, 372 - 389.

Schiller, H.; Doerffer, R.: Improved Determination of Coastal Water Constituent
Concentrations from MERIS Data. In: *IEEE Transactions on Geoscience and
Remote Sensing*. Vol. 43 (2005) 7, 1585 - 1591.



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Schiller K.: Derivation of Photosynthetically Available Radiation from METEOSAT data in the German Bight with Neural Nets. In: Ocean Dynamics 2006 (in press)

Weisse, R.; Storch, H.v.; Feser, F.: Northeast Atlantic and North Sea storminess as simulated by a regional climate model 1958-2001 and comparison with observations.. In: Journal of Climate. Vol. 18 (2005) 3, 465 - 479.

Weisse, R.; Plüß A.: Storm-related sea level variations along the North Sea coast as simulated by a high-resolution model 1958 – 2002. In: Ocean Dynamics. DOI 10.1007/s10236-005-0037-y.

Wirtz K.; Wiltshire K.: Long-term shifts in marine ecosystem functioning detected by inverse modeling of the Helgoland Roads time-series. In: Journal of Marine Systems 56 (2005) 262 – 282.

Woth, K.: North Sea storm surge statistics based on projections in a warmer climate: How important are the driving GCM and chosen emission scenario?. In: Geophysical Research Letters, Vol. 32, L22708, doi:10.1029/2005GL023762, 2005.

Weisse, R., H. Günther, 2006: Wave climate and long-term changes for the Southern North Sea obtained from a high-resolution hindcast 1958-2002. Submitted to Ocean Dynamics



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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="margin-left: 20px;"> <input checked="" type="checkbox"/> with Framework Programme 5 <input checked="" type="checkbox"/> with Framework Programme 6 <input checked="" type="checkbox"/> with Framework Programme 7 </div> <div style="text-align: right;"> <input type="checkbox"/> No </div> |
| EU-projects you are involved in: | <p>Past projects</p> <p>Programme title / contract number / title / acronym / your function (coordinator / partner / contractor)</p> <p>MAST I / MAST 0026/ The Wadden Sea Project / WASP / partner</p> <p>MAST II / MAS-2CT94-0081/ An Integrated Approach for Determining NW European Coastal Extremes / NEPTUNE / partner</p> <p>MAST III / MAS3CT950025 /Pre-Operational Modelling In the Seas of Europe /POMISE / partner</p> <p>MAST III / MAS3CT980168 /European Radar Ocean Sensing /EuroROSE / coordinator</p> <p>FP4-Environment / EVK3-CT-2000-00026 / Rogue Waves - Forecast and Impacton Marine Structures / MaxWave / partner</p> <p>FP4- Growth / GRD1-2000-25812/ Advanced Decision Support for Shiprouting Based on Full-scale Ship-specific Responses as well as Improved Sea and Weather Forecasts Including Synoptic, High Precision and Realtime Satellite Data / Searoutes / partner</p> <p>FP5-EESD / EVK2-CT-1999-00248 / Hindcast of dynamic processes of the ocean and coastal areas of Europe / HIPOCAS / partner</p> <p>Present projects</p> <p>FP6-Transport / TST4-CT-2005-516359 / Advanced decision support system for ship design, operation and training / ADOPT / partner</p> <p>FP6-Transport/ TIP4-CT-2005-516278 / Design, operation and regulation for safety of ships / SAFEDOR / partner</p> |
| Other international collaborations: | <ul style="list-style-type: none"> - North West Shelf Operational Oceanographic System (NOOS) - Baltic Operational Oceanographic System (BOOS) - Waves in Shallow Water Environment (WISE) - Wave Model Group (WAM) |
| Name(s) and contact details of potential partners: | <p>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:</p> <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div> |



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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).

The GKSS Research Center and the Institute for Coastal Research will be introduced. Examples of the different research activities will be presented. This will cover investigations in climate research, environmental modelling and monitoring. The strategies, basic methods, and results will be shown.

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:

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