

NOTIFICATION OF PROPOSED RESEARCH CRUISEGENERAL
PART A

1. Name of ship **FS 'POSEIDON'**
2. Dates of cruise from **13.06.2015, Reykjavik to 30.06.2015 Reykjavik**
3. Operating Authority **GEOMAR**
Helmholtz-Zentrum für Ozeanforschung Kiel
Wischhofstraße 1-3
D-24148 KIEL
Telephone +49 (0)431- 600 2132
Telefax +49 (0)431- 600 1601
E-Mail klackschewitz@geomar.de
4. Owner (if different from para 3)
5. Particulars of ship:
- | | |
|-----------------|-------------------------------------|
| Name | POSEIDON |
| Nationality | German |
| Overall length | 60,80 metres |
| Maximal draught | 4,90 metres |
| BRT | 1105 BRT |
| Propulsion | Diesel Electric |
| Call Sign | DBKV |
| IMO no. | 7427518 |
| MMSI no. | 211204360 |
| Telephone | INMARSAT 00870761651773 |
| Telefax | INMARSAT 00870600273636 |
| E-Mail | bruecke@poseidon.briese-research.de |
6. Crew
- | | |
|----------------|------------------|
| Name of Master | Matthias Günther |
| No of Crew | 15 |
7. Scientific Personnel
- | | |
|--|----------------------------|
| Name and address of Scientists in charge | Prof. Dr. Detlef Quadfasel |
| Phone/Fax | +49 40 42838-5756 // -4644 |
| E-Mail | detlef.quadfasel@zmaw.de |
| No of Scientists | 11 |
8. Geographical area in which ship will operate (with reference to latitude and longitude)
63°N – 68°N 34°W – 22° W
9. Brief description of purpose of cruise
- (1) Investigation of small scale mixing structures of the ocean**
(2) Exchanges across the Greenland Scotland Ridge – overflows and Atlantic Water inflow

10. Dates and names of intended ports of call

Reykjavik, Iceland, in between June 9-14, 2015 for 72 hours
(intended so far June 10-13, 2015)

Reykjavik, Iceland, in between June 28 - July 5, 2015 for 72 hours
(intended so far June 30 - July 3, 2015)

11. Any special logistic requirement at ports of call:

Crew change, loading and unloading of equipment and provisions bunkering

DETAIL

PART B

1. Name of research ship POSEIDON Cruise No. **POS486**
2. Dates of cruise from **13.06.2015, Reykjavik** to **30.06.2015 Reykjavik**
3. Purpose of research and general operational methods.

(1) Investigation of small scale structures of the ocean

(2) Exchanges across the Greenland Scotland Ridge – overflows and Atlantic Water inflow

Shipborne hydrographic and mooring work

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment.
- see map attached -
5. Types of samples required e.g. Geological/Water/Plankton/Fish/Radioactivity/Isotope

Water column samples

and methods by which samples will be obtained (including/dredging/coring/drilling).

CTD Rosette system

6. Details of moored equipment:

Planned mooring recoveries:

| name | deployment date | description | latitude | longitude | depth |
|---------|-----------------|---------------------------------|--------------|--------------|-------|
| DS2-14 | 07.07.2014 | ADCP+MC, standard design | 66° 07.25' N | 27° 16.72' W | 581 m |
| DS1-14 | 17.08.2014 | ADCP+MC, standard design | 66° 04.59' N | 27° 04.84' W | 620 m |
| DS20-14 | 07.07.2014 | ADCP+MC, standard design | 66° 06.11' N | 27° 10.27' W | 625 m |
| DS21-14 | 07.07.2014 | ADCP Lander, trawl resistant | 66° 09.82' N | 27° 27.86' W | 491 m |
| DS22-14 | 07.07.2014 | RCM+MC, bottom line | 66° 13.40' N | 27° 43.52' W | 494 m |
| DS23-14 | 08.07.2014 | RCM+MC, bottom line | 66° 02.89' N | 26° 59.71' W | 621 m |

Planned mooring deployments:

| name | description | latitude | longitude | approx. depth |
|---------|------------------------------|--------------|--------------|---------------|
| DS2-15 | ADCP Lander, trawl resistant | 66° 07.25' N | 27° 16.72' W | 580 m |
| DS1-15 | ADCP+MC, standard design | 66° 04.59' N | 27° 04.84' W | 620 m |
| DS20-15 | ADCP+MC, standard design | 66° 06.11' N | 27° 10.27' W | 630 m |
| DS21-15 | ADCP+MC, standard design | 66° 09.82' N | 27° 27.86' W | 500 m |
| DS22-15 | ADCP+MC, standard design | 66° 13.40' N | 27° 43.52' W | 500 m |
| DS23-15 | ADCP Lander, trawl resistant | 66° 02.89' N | 26° 59.71' W | 620 m |
| DS24-15 | ADCP Lander, trawl resistant | 66° 16.97' N | 27° 59.18' W | 400 m |
| DS25-15 | ADCP mooring and/or PIES | 65° 45.60' N | 28° 00.00' W | 800 m |
| DS26-15 | ADCP mooring and/or PIES | 65° 36.60' W | 28° 30.00' W | 1020 m |
| DS27-15 | ADCP mooring and/or PIES | 65° 27.60' W | 29° 00.00' W | 1250 m |
| DS28-15 | ADCP mooring and/or PIES | 65° 18.60' W | 29° 30.00' W | 1400 m |

The deployment positions are ± 10 nm and will be adjusted during the cruise, when data of the local water column are available. The aim is to follow the plume of dense water flowing southwestward from Denmark Strait in addition to the already occupied positions. Mooring recoveries are planned for summer 2016.

Planned float deployments:

| name | description | latitude | longitude |
|------------|-----------------|--------------|--------------|
| ARGO float | profiling float | 64° 47.00' N | 30° 00.00' W |

7. Explosives:

none

- (a) Type and Trade Name
- (b) Chemical content
- (c) Depth of Trade class and stowage
- (d) Size
- (e) Depth of detonation
- (f) Frequency of detonation
- (g) Position in latitude and longitude
- (h) Dates of detonation

8. Detail and reference of

- (a) Any relevant previous/future cruises

Poseidon P418, P437, MERIAN MSM21/1, Poseidon P471

- (b) Any previously published research data relating to the proposed cruise. (Attach separate sheet if necessary)

Paka, V., V. Zhurbas, B. Rudels, D. Quadfasel, A. Korzh, and D. Delisi (2013): Microstructure measurements and estimates of entrainment in the Denmark Strait overflow plume. Ocean Sci. Discuss., 10, 1067-1098, doi:10.5194/osd-10-1067-2013.

Voet, G. and D. Quadfasel (2010): Entrainment in the Denmark Strait overflow plume by meso-scale eddies. Ocean Sci. 6, 301-310.

Jochumsen, K., D. Quadfasel, H. Valdimarsson and S. Jonsson (2012): Variability of the Denmark Strait Overflow: moored time series from 1996 – 2011, J. Geophys. Res., 117, doi:10.1029/2012JC008244.

Serra, N., R. H. Käse, A. Köhl, D. Stammer, and D. Quadfasel, (2010): On the low-frequency phase relation between the Denmark Strait and the Faroe-Shetland Channel dense overflow. Tellus, 62, 530—550, DOI: 10.1111/j.1600-0870.2010.00445.

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.

Dr. Hedinn Valdimarsson, Marine Research Institute, Reykjavik, hv@hafro.is

10. State:

- (a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

Yes

- (b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation.

Yes, after discussion

- (c) When research data from the intended cruise is likely to be made available to the coastal state and if so by what means.

After the cruise / recovery of moored instruments:

- Cruise Report three months after finishing the research cruise.
- Scientific publication within the following three years.

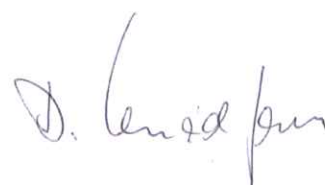
SCIENTIFIC EQUIPMENT

COASTAL STATE :

Iceland

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE
(INDICATE 'YES' OR 'NO')

| List of all major Marine Scientific Equipment it is proposed to use and indicate waters in which it will be deployed. | Fisheries Research Within Fishing Limits | Research concerning Continental Shelf out to coastal state's margin | DISTANCE FROM COAST | | |
|---|--|---|---------------------|------------------|-------------------|
| | | | Within 12 NM | Between 12-50 NM | Between 50-200 NM |
| CTD-Rosette | No | Yes | Yes | Yes | Yes |
| Underway CTD | No | Yes | Yes | Yes | Yes |
| Ship ADCP | No | Yes | Yes | Yes | Yes |
| Surface Thermosalinograph | No | Yes | Yes | Yes | Yes |
| Multibeam Echosounder | No | Yes | Yes | Yes | Yes |
| ARGO float deployment | No | No | No | No | Yes |



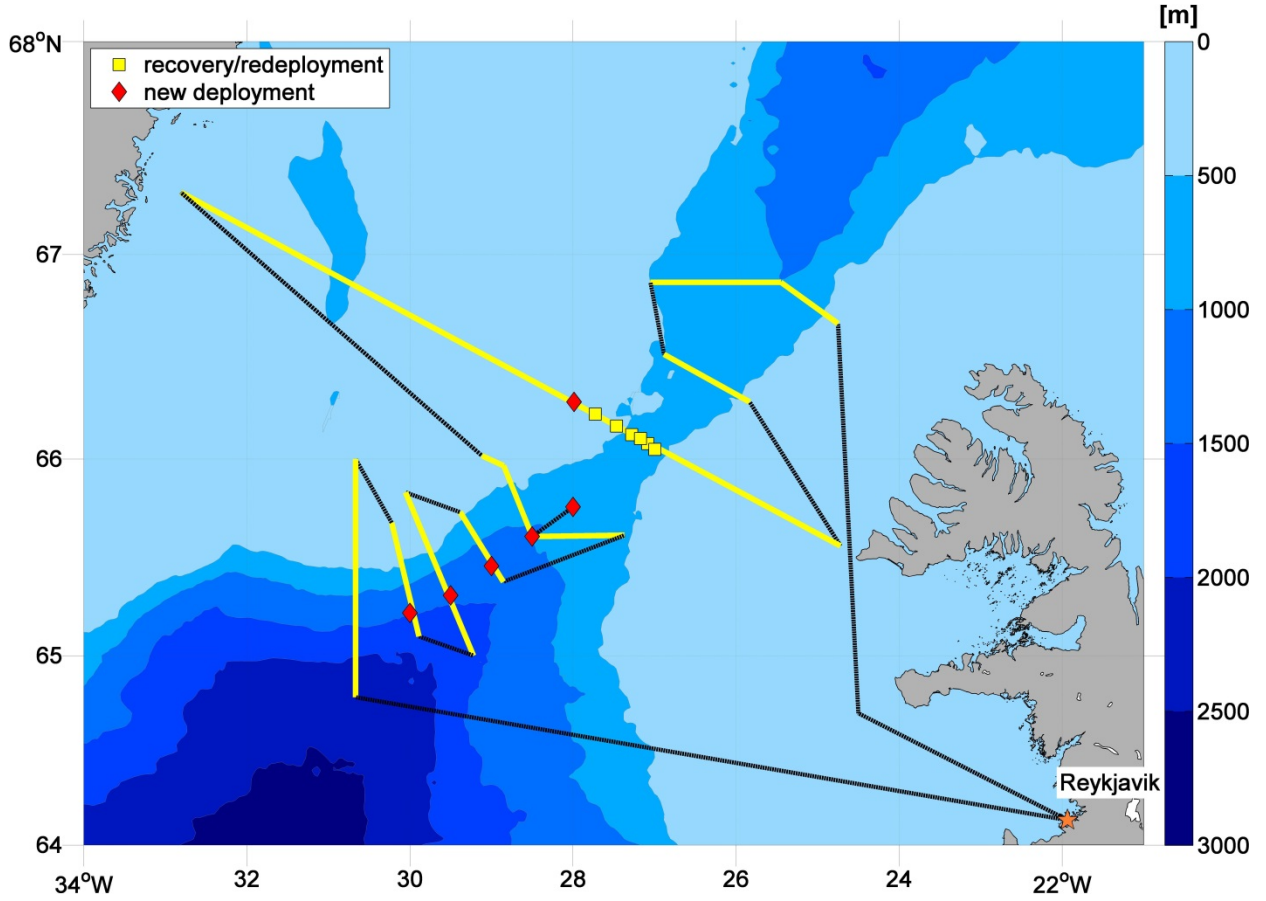
Dated: 12.12.2014



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GEOMAR
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Wischhofstraße 1-3
24148 Kiel

 (Principal Scientist)

Appendix: Planned cruise track of RV POSEIDON cruise POS486



Planned track of cruise POS486. The mooring positions are marked in red and yellow. Yellow lines depict CTD sections and black dotted lines are transits.