

Curriculum Vitae  
**Dr. Gabriele Uenzelmann-Neben**  
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Dr Uenzelmann-Neben's work has a strong focus on the reconstruction of the development of the oceanic circulation in response to tectono-magmatic processes shaping the seafloor topography and as a climate tracer (base for oceanographic-climatological simulations). High resolution seismic reflection data have been interpreted to provide information on the evolution of the pathways and intensity of, e.g., Antarctic Bottomwater (AABW) and Antarctic Intermediate Water (AAIW) as well as the study of water mass flow variations in response to the opening of the Drake Passage and the Tasman gateway. In addition, Dr. Uenzelmann-Neben has a track record in reconstructing Antarctic ice-sheet dynamics from seismic profiles collected on the continental shelf, slope and rise.

### Education

- 1980-1985 study of Geophysics with subsidiary subjects Theoretical Physics, Physical Oceanography and Geology, University Hamburg
- 12.85 Diploma Thesis 'Interpretation of aeromagnetic anomalies in Iran'
- 1988 PhD Thesis at 'Sediments of the southern Outer Vöring Plateau – a high-resolution seismic reflection investigation' Christian-Albrechts-Universität zu Kiel

### Occupations

- 2.86-2.89 Research assistant at Institute for Geophysics, University Kiel
- 3.89-2.92 Post-Doc at Alfred-Wegener-Institut für Polar- und Meeresforschung, Bremerhaven
- 3.92-12.92 Post-Doc at University Bremen
- Since 1.93 Senior Scientist at Alfred-Wegener-Institut für Polar- und Meeresforschung, Bremerhaven
- Principle Investigator of several project dealing with the reconstruction of palaeo-currents via the investigation of seismic reflection data; Chief Scientist on several expeditions; working group leader on expeditions; project leader and project management; supervision of Diploma, Master and Ph students as well as Post Docs; occasional lecturing at University of Bremen (seismic methods)
- 11.2013 research stay University of Louisiana, USA (Prof. Dr. P. Clift)

### Additional tasks:

#### Reviewer

- *for journals/publishers*  
among others Geophysical Journal International, Journal of Geophysical Research, Geological Society London, Geology, Marine Geology, Marine Geophysical Researches, Nature, Nature Geoscience, several conference proceedings volumes
- *for funding agencies*  
e.g., DFG, BMBF, Senatskommission für Ozeanographie, Gutachterpanel Forschungsschiffe, US NSF, South Africa NRF, Italy PNRA, Switzerland SNSF, Australia ARC

#### Panels

- Member of Steering Committee of DFG Priority Programme 1375 'SAMPLE'
- Member of IODP Site Evaluation Panel (2010-2015)
- ECORD Distinguished Lecturer 2014-2016
- Member of International Peer Review Panel of the Danish Council for Independent Research | Natural Science (2016-2018)
- Member of Scientific Advisory Board Leibniz Institut für Angewandte Geophysik im GeoZentrum Hannover (>2016), 2020-2023 chair
- Member of ECORD Facility Board (= IODP entity for Mission Specific Platform drilling) 2017-2019, 2018 vice-chair, 2019-2022 chair

- Editor-in-Chief Geo-Marine Letters (>2017)
- German National Committee SCAR-IASC (>2023)

### Research interests

- continental margins
- Geophysics of the Polar regions
- sediment transport processes
- reconstruction of sedimentary environments, climate and oceanic circulation using the high resolution seismic imaging of sedimentary structures
- large igneous provinces LIPs (formation and impact on climate and circulation)
- seismic reflection data

### Field experience

- 8.84 `Schwarzer Zollernwald` Seismic reflection acquisition in the Black Forrest
- 7.85 `COOLE 85` Seismic reflection acquisition in Ireland
- 7.86 Seismic reflection acquisition in the Norwegian Greenland Sea with FS *Valdivia*
- 6.88 Seismic reflection acquisition near Iceland and the F eroes with FS *Poseidon*
- 7.88 Seismic reflection acquisition on the Barents Shelf with FS *Meteor*
- 12.89-3.90 ANT-VIII/5, Seismic reflection and refraction, gravity and magnetic acquisition in the Weddell Sea, PFS *Polarstern*
- 8.90-10.90 ARK-VII/3, Seismic reflection and refraction and gravity acquisition in Scoresby Sund, Gr nland, PFS *Polarstern*
- 8.91-10.91 ARK-VIII/3, Seismic reflection and refraction and gravity acquisition in the central Arctic Ocean, PFS *Polarstern*
- 4.93-6.93 SO 86, Seismic reflection acquisition in the Angola Basin (chief of seismic team), FS *Sonne*
- 1.96 M34-1, Seismic reflection acquisition in the Cape Basin (chief of seismic team), FS *Meteor*
- 3./4.97 M38-2, Seismic reflection acquisition across the Amazona Fan (chief of seismic team), FS *Meteor*
- 12.97-1.98 SETARAP - Seismic reflection and refraction acquisition in the areas of the Agulhas Ridge and the Agulhas Plateau (planning and chief scientist), RV *Petr Kottsov*
- 1./2. 2003 SO 169, CAMP Seismic reflection and refraction acquisition on the Campbell Plateau, New Zealand (planning and co-chief scientist, chief of seismic team), FS *Sonne*
- 3./4. 2005 SO 182, AISTEK-I Seismic reflection and refraction acquisition in the areas of the Agulhas Bank, the Agulhas Plateau and the Transkei Basin (planning and chief scientist), FS *Sonne*
- 6./7. 2009 MSM 12/2, Eirik Drift Seismic reflection acquisition and geological sampling in the areas of the Eirik Drift, South Greenland (planning and chief scientist), FS *Maria S. Merian*
- 2.-4. 2010 ARK-XXVI/3, Amundsen Sea Seismic reflection acquisition in the area of the Amundsen Sea, southern Pacific (planning and chief of seismic team), PFS *Polarstern*
- 1.-3. 2011 So 213, SOPATRA Seismic reflection acquisition in the area of the southern Pacific (planning and chief of seismic working group), FS *Sonne*
- 10./11. 2011 MSM 19/2, Agulhas Ridge Seismic reflection acquisition in the area of the Agulhas Ridge, southern Atlantic (planning and chief scientist), FS *Maria S. Merian*
- 10./11. 2012 So 224, Manihiki II Seismic reflection acquisition in the area of the Manihiki Plateau, southwestern Pacific (planning and chief scientist), FS *Sonne*
- 3.-5. 2014 So 232, SLIP Seismic reflection acquisition in the area of the Mozambique Ridge, southwestern Indian Ocean (planning and chief scientist), FS *Sonne*
- 2.-3.2017 PS 104, seismic data acquisition on the Amundsen Sea shelf, Antarctica (planning and chief of seismic working group), FS *Polarstern*
- 2.-3.1019 MSM 81 Falkland Sediment Drifts Seismic reflection acquisition in the area of the Falkland Plateau (planning and chief scientist), FS *Maria S. Merian*

- 1.-2.2020 SO272 Kerguelen Plateau, seismic reflection acquisition in the area of the Labuan Basin and William's Ridge (planning and chief scientist), FS *Sonne*
- 2.-4.2022 IODP Expedition 392 Agulhas Plateau Cretaceous Climate, scientific drilling on the Agulhas Plateau and in the Transkei basin to reconstruct the transition from the Cretaceous Supergreenhouse to the Cenozoic Green- and Icehouse (planning and one of the two co chief scientists), *JOIDES Resolution*
- 12.2022-3.2023 PS 134, seismic data acquisition on the Bellingshausen Sea, Antarctica (planning and chief of seismic working group), FS *Polarstern*

#### **Co-supervision of PhD students:**

Frank Nitsche, University Bremen, 1997  
 Estella Weigelt, University Bremen, 1997  
 Etienne Wildeboer Schut, University Bremen, 2004  
 Jan Grobys, University Bremen, 2007  
 Philip Schlüter, University Bremen, 2008  
 Nicole Parsiegl, University Bremen, 2009  
 Xin Li, University Bremen, 2012  
 Ansa Lindeque, University Bremen, 2014  
 Antje Müller-Michaelis, University Bremen, 2014  
 Michael Horn, University Bremen, 2015  
 Ricarda Pietsch, University Bremen, 2016  
 Katharina Hochmuth, University Bremen, 2016  
 Max Fischer, University Bremen, 2017  
 Banafsheh Najjarifarizhendi, on-going  
 Matthias Schneider, on-going  
 Johann Gille-Petzold, on-going

#### **Co-supervision of Bachelor students:**

Janine Bösel, University Bremen (2012)

#### **Awards:**

for the presentation

"Uenzelmann-Neben, G.; Jokat, W.; Mandler, H.: Sedimentverteilung und Krustenstruktur im Scoresby Sund, Ost Grönland aus seismischen Untersuchungen" given at the 52. Jahrestagung of the Deutsche Geophysikalische Gesellschaft in Leipzig 1992.

#### **IODP proposals (still to be drilled):**

Friedrich, O., Romans, B., Norris, R., Bailey, I., Bohaty, S., Bolton, C., Bornemann, A., Crocker, A., Hull, P., Liebrand, D., Lippert, P., Lourens, L., Pälike, H., Pross, J., Sexton, P., **Uenzelmann-Neben, G.**, Wade, B., Westerhold, T., Wilson, P. Badger, M., Newfoundland Oligo-Miocene sediment drifts: understanding the transition from the Paleogene greenhouse to the modern icehouse, 874-Full2. JR Facility Board. To be scheduled for drilling.

Parnell-Turner, R., Henstock, T., Jones, S., Maclennan, J. McCave, I.N., Murton, B., Rudge, J., Shorttle, O., White, N., Barker, S., Brandsdottir, B., Briais, A., Channell, J., Coggon, R., Eason, D., Escartin, J., Graham, D., Hey, R., Hodell, D., Hooft, E., Huber, M., Lear, C., Lin, J., Lizarralde, D., Lunt, D., Martinez, F., Raymo, M., Rebesco, M., Ribe, N., Rickaby, R., Searle, R., Shen, Y., Steinberger, B., Stracke, A., **Uenzelmann-Neben, G.**, Mantle Dynamics, Paleooceanography and Climate Evolution in the North Atlantic Ocean. 892-Full2. JR Facility Board. To be drilled as Expedition 935 in 2020 and 2023.

Stoner, J., Hatfield, R., **Uenzelmann-Neben, G.**, Gulick, S., Nielsen, T., Bailey, I., Jennings, A., McClymont, E., Keisling, B., Reilly, B., de Vernal, A., Mix, A., Walczak, M., Hillaire-Marcel, C., St-Onge, G., Knutz, P., Wright, J., Mountain, G., Carlson, A., Assessing the history of the

south Greenland Ice Sheet and its interaction with ocean circulation, climate, and sea level. 962-Full. To be scheduled for drilling.

Westerhold, T., Agnini, C., **Uenzelmann-Neben, G.**, Abbott, A.N., Alegret, L., Bohaty, S.M., Coffin, M., Cramwinckel, M.J., Dallanave, E., Drury, A.J., Edgar, K., Hathorne, E.C., Huber, M., Hull, P., Penman, D.E., Robinson, R.S., Scher, H., Schneider, M., Whittaker, J., Zachos, J.C., Kerguelen Plateau Climate Chronicles - outstanding high-resolution archive of Cenozoic climatic and oceanographic changes in the southern Indian Ocean, 983-Pre. Science Evaluation Panel.

### **Third-party funds**

#### *International Bureau*

Uenzelmann-Neben und Watkeys, ‚Auswirkungen von marinen Manganablagerungen im Gebiet des Mozambique Rückens auf Umwelt und Ökonomie‘, SUA 07/007, 2007-2010, € 16820.-

Uenzelmann-Neben, Tagungsreise nach Kapstadt‘, SUA 08/A03, 2008, € 1500.-

#### *Helmholtz Gemeinschaft*

Uenzelmann-Neben in Lohmann et al., ‚Helmholtz Research School on Earth System Sciences‘, 2011-2014, € ~90000.-, TVL E13/2 (36 Mo)

#### *BMBF*

Uenzelmann-Neben und Miller, ‚Sedimentation und Tektonik im Gebiet des Agulhas Rückens und Agulhas Plateaus‘ 03G0532A, 1997-2000, 1\*BAT Iia (26 Mo), 43 days ship time a € 20,000.- = € 860,000.-

Gohl und Uenzelmann-Neben, ‚Struktur und Dynamik eines submarinen Kontinents: tektonisch magmatische Entwicklung des Campbell Plateaus‘, 03G0169A, 2003-2005, BAT Iia (26 Mo)

Uenzelmann-Neben und Gohl, ‚Südöstlicher Atlantik und südwestlicher Indik: Rekonstruktion der sedimentären und tektonischen Entwicklung seit der Kreide AISTEK-I‘, 03G0182A, 2005-2007, € 186812.-, BAT Iia (26 Mo), 45 days ship time a € 30,000.- = € 1,350,000.-

Uenzelmann-Neben, ‚Teilnahme am Workshop Inkaba yeAfrica in Südafrika‘, 2007, Internationales Büro des BMBF, € 1500.-

Tiedemann, Gersonde, Steph, Mackensen, Uenzelmann-Neben, O’Connor, Nürnberg, Frank, ‚South Pacific Paleooceanographic Transects SOPATRA‘, 2010-2013, BMBF, 03G0213A, € 152785.-, TVL E13/2 (26 Mo)

Uenzelmann-Neben und Gohl, ‚Manihiki II – Das Manihikiplateau – Entstehung, Aufbau und Auswirkungen ozeanischer Plateaus und pleistozäne Dynamik des westpazifischen Warmwasserpools‘, 2012-2014, BMBF, 03G0224A, € 474291.-, 2.5\* TVöD E13 66% (2\* 26 Mo and 6 Mo), 41 days ship time a € 30,000.- = € 1,230,000.-

Uenzelmann-Neben, ‚SLIP - Suspected Large Igneous Province – Handelt es sich beim Mozambique Rücken um eine Large Igneous Province?‘, 2014-2016, BMBF, 03G0232A, € 389210.-, 75 % TVöD 13 (26 Mo and 6 Mo), 45 days ship time a € 30,000.- = € 1,350,000.-

Uenzelmann-Neben, ‚Kerguelen Plateau Drift Deposits: outstanding high-resolution chronicle of Cenozoic climatic and oceanographic changes in the southern Indian Ocean‘, 2019-2022, BMBF, 03G0272A, € 321893.-, 66% TVöD 13 (26 Mo), 54 days ship time a € 40,000.- = € 2,160,000.-

#### *DFG*

Uenzelmann-Neben, ‚Kongressreise in die USA‘, Ue 49/1, 1996

Uenzelmann-Neben, Gersonde, Miller, ‚Einfluß des Strömungssystems auf die känozoische Sedimentation im Gebiet des Agulhas Rückens, Südost-Atlantik‘ Ue 49/2, 1998- 2001, BAT Iia/2 (36 Mo)

Uenzelmann-Neben, Spiess, Miller, ‚Känozoische Entwicklung der Sedimentation im Gebiet des Orange Fächers, Südost-Atlantik‘, Ue 49/4, 2000-2002, BAT Iia/2 (36 Mo)

Uenzelmann-Neben, Grobe, Beckmann, ‚Modelling Sediment Drifts: The Antarctic Peninsula‘, Ue 49/5, 2001-2003, BAT Iia (24 Mo)

- Uenzelmann-Neben, Miller, 'Reconstructing the Benguela Current: The Walvis Basin and the northern Cape Basin', Ue 49/6, 2002-2005, BAT IIa/2 (36 Mo)
- Uenzelmann-Neben, Dupont, 'Cenozoic development of the depositional environment in the northern Cape Basin in relation to the initiation of the Northern Hemisphere Glaciation', Ue 49/8, 2004-2007, BAT IIa/2 (36 Mo)
- Huhn, Uenzelmann-Neben, 'Numerical simulations of sediment drift evolution to reconstruct current conditions and sediment transport mechanisms under fundamentally different extreme polar climate situations adopting high-resolution records from ODP Leg 178, offshore the Antarctic Peninsula', Hu 1278/2, 2005-2007, BAT IIa/2 (24 Mo)
- Uenzelmann-Neben, 'Kongressreise in die USA', Ue 49/10, 2007, € 1600.-
- Gohl, Uenzelmann-Neben, 'Sensitivity of Quaternary West Antarctic Ice Sheet advances and retreats in Pine Island Bay', GO 724/9, 2007-2010, TVöD E13/2 (24 Mo)
- Uenzelmann-Neben, Franke, 'Reconstruction of palaeo-currents via the investigation of sediment drifts', Ue 49/11, 2009-2012, € 209800.-, TVöD E13 (36 Mo)
- Quadfasel, Uenzelmann-Neben, Rhein, Jürgens, Polehne, 'Koordinatorantrag FS Maria S. Merian, MSM 12', 2009, € 146,790.-, 30 days ship time a € 40,000.-= € 1,200,000.-
- Uenzelmann-Neben, 'The Eirik Drift - Reconstruction of palaeocurrents via the investigation of a sediment drift', Ue 49/12, 2010-2013, € 105938.-, TVöD E13/2 (36 Mo)
- Werner, Uenzelmann-Neben, 'Koordinatorantrag FS Maria S. Merian, MSM 19', 2011, € 84,441.-, 39 days ship time a € 40,000.-= € 1,560,000.-
- Uenzelmann-Neben, Anka, Franke, 'The influence of tectonic, climate and ocean circulation on sediment transport and deposition in the western South Atlantic during the past 60 mill years', Ue 49/15, 2013-2015, € 117525.-, TVöD 13 (18 Mo)
- Uenzelmann-Neben, 'Changing sediment provenance in the Indian Ocean-Atlantic Ocean gateway during the Pliocene in relation to current dynamics and variations in continental climate', Ue 49/17, 2016-2017, € 90600.-, TVöD 13 (12 Mo)
- Uenzelmann-Neben, 'Transport, Abtragung und Akkumulation von Sedimenten numerisch simuliert für Paläo-Ozeane und rekonstruiert von Bohrkernen der Eirik Drift (TRANSPORTED)', Ue 49/19, 2017-2020, € 3700.-
- Uenzelmann-Neben, 'Falkland Sediment Drifts – Durchführung der Expedition MSM 81', 2018, € 126619.-, 42 days ship time a € 40,000.-= € 1,680,000.-
- Uenzelmann-Neben, 'Falkland Sediment Drifts ', Ue 49/23-1, 2019-2021, € 101500.-, 66% TVöD 13 (24 Mo)
- Uenzelmann-Neben, 'Falkland Sediment Drifts ', Ue 49/23-2, 2021-2022, € 60250.-, 66% TVöD 13 (12 Mo)