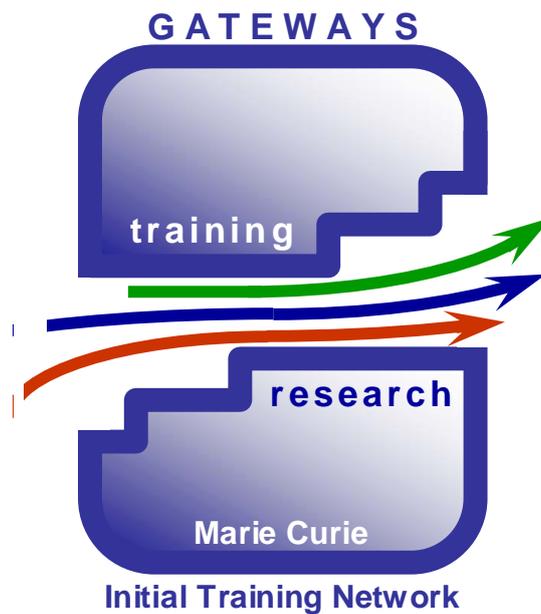

GATEWAYS



Multi-level assessment of ocean-climate dynamics: a gateway to interdisciplinary training and analysis

Project Overview and Fellowships

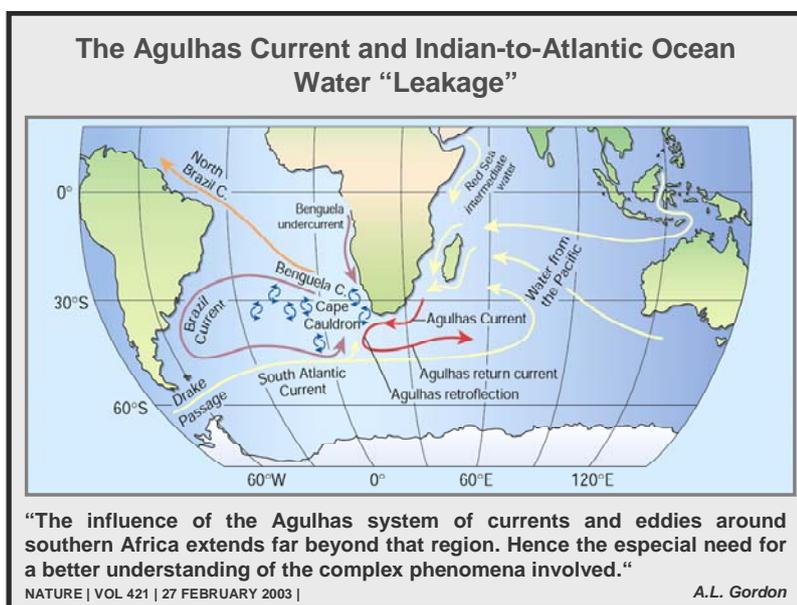
A new EU Marie Curie Initial Training Network (ITN)



PROJECT OVERVIEW AND OBJECTIVES

GATEWAYS carries out research into an ocean current system that influences the climate of southern Africa and the strength of ocean currents in the Atlantic Ocean: the Agulhas Current around South Africa, and the water flow from the Indian Ocean to the Atlantic. This research is designed to understand the connection between ocean currents, regional climate and the strength of the so-called overturning circulation of the Atlantic.

The GATEWAYS project combines three disciplines: ocean observations and processes, ocean and climate reconstructions, and climate modelling. The project tests the sensitivity of the Agulhas Current to changing climates of the past; the Current's influence on southern Africa climates, including weather systems and rain fall patterns; transfer of water from the subtropical South Indian Ocean to the Atlantic by Agulhas "leakage" around southern Africa; and the impact of this water transfer on the Atlantic Ocean overturning circulation.



The Agulhas Current is one of the largest ocean currents in the southern hemisphere. It transports about 70 Sv (1 Sv = 10^6 m³/s) of water from the tropical-subtropical Indian Ocean to the southern tip of Africa. Most of this water flows back into the Indian Ocean while 20% drift on to the west and enter the South Atlantic in the form of eddies that form on average 4-6 times per year. These waters are warm and salty and stimulate a density anomaly in the South Atlantic that directly influences the strength of the Atlantic overturning circulation. Computer models

indeed demonstrate that the transport of salty waters from the Indian Ocean around the southern tip of Africa modulates convective activity in the North Atlantic with implications for the strength of the Gulf Current and hence, climate in Europe. The GATEWAYS project aims at these processes by approaching them from the perspective of past ocean and climate changes. Routine and novel palaeoceanographic analytical methodologies are used to produce synoptic pictures of the Current's variability in the past, under climatic conditions very different from today's. Modern observations are conducted along the Agulhas Current to establish the linking between ocean processes and the formation of the geochemical proxies that are measured in sediment cores from the region. Computer models establish the linking between the palaeoceanographic data and past ocean and climate dynamics.

15 Early-Stage (ESR) and 3 Experienced Researchers (ER) will be embedded in the project and receive training in global change research with a focus on ocean-atmosphere-climate linking. Project fellows will learn to quantify parameters and processes relevant to climatic developments and projections. They receive complementary skills training in how to organize and conduct interdisciplinary research and communicate across the academic and private sectors. Analytical training is provided in quantitative micropalaeontology, stable isotope and trace metal geochemistry, and climate modelling.

Leaving the GATEWAYS project you have acquired a solid knowledge in your own specialty field of research; a firm interdisciplinary grounding in the marine and climate sciences; proficiency in

state-of-the-art analytical laboratory-based procedures and numerical data processing and modelling; managerial skills enabling them to design and carry out research in an efficient and pragmatic way.

The combined scientific and complementary skills training enhances your standing in the international research arena, academic and which will benefit their onward career progression.

PARTICIPATING ORGANISATIONS

PARTNER 1: Institute of Environmental Science and Technology at the Universitat Autònoma de Barcelona, Spain (coordinating institution)

PARTNER 2: Cardiff University, School of Earth, Ocean and Planetary Sciences, Cardiff, United Kingdom

PARTNER 3: Leibniz Institute of Marine Sciences at the Christian-Albrechts University in Kiel, Germany

PARTNER 4: Royal Netherlands Institute for Sea Research, Den Burg, Texel, The Netherlands

PARTNER 5: Vrije Universiteit Amsterdam, Department of Paleoclimatology and Geomorphology, Amsterdam, The Netherlands

PARTNER 6: Geological Survey of Israel, Jerusalem, Israel

PARTNER 7: University of Cape Town, Department of Oceanography, Cape Town, South Africa

PARTNER 8: Christian-Albrechts-University Kiel, Department of Geoscience, Kiel, Germany

PARTNER 9: Climate Risk Analysis, Hannover, Germany

ELIGIBILITY CRITERIA

Following EU recruitment and mobility regulations candidates applying for the ESR and ER fellowships may not have resided or carried out their main activity in the country of their selected host institute for more than 12 months in the 3 years immediately prior to their appointment. Applicants for the ESR (PhD) fellowships have obtained the degree required for entering the PhD programme at their selected host institute within the last four years immediately prior to being appointed for the fellowship.

ESR AND ER PROJECT DESCRIPTIONS

The following sections give brief descriptions of the participating institutions, and of the ESR and ER projects embedded in GATEWAYS. The description sheets are provided by the participating host institutions that collaborate in GATEWAYS and list contact details for submitting your application. An email address is also provided to be contacted should you have questions specific to individual projects.

PARTNER 1

The Institute of Environmental Science and Technology (ICTA) at the Universitat Autònoma de Barcelona is a leading national institute carrying out research and education in the environmental sciences. ICTA promotes basic and applied multidisciplinary research into environmental processes and the relations between the changing environment and society. ICTA currently has 41 academic staff and over 80 Early-stage researchers (PhD students, post-doctoral research associates)

ICTA invites applications for

- **2 fellowships in marine palaeoclimatology of 3 years each for Early-stage Researchers (ESR) at the PhD student level**
- **1 fellowship of 2 years for an Experienced Researcher (ER) at the post-doctoral level with expertise in marine science and data processing**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network “GATEWAYS”.

The ESR and ER fellows will join the marine science section in ICTA that conducts research into marine palaeoclimatology and palaeo-environments. The **ESR fellowships** are directed towards establishing the variability of the greater Agulhas Current regime off southeast Africa under contrasting climates of the past, and the dynamics of the water transport from the Indian Ocean to the Atlantic during these times. Analytical methodologies comprise stable isotope and trace element geochemistry, molecular biomarker chemistry and micropalaeontology. ESR fellows are expected to achieve a PhD degree during their fellowship. The **ER fellow** will collaborate with a private-sector SME partner to structure the project multi-proxy database and building up and maintaining an interactive data management and visualization platform that will enable accessing data Network-wide. The ER will implement the GATEWAYS research results for their own field of expertise.

Salary. Gross living allowances comply with the rates defined by the EU. They are €2745,- per month for ESR fellows and €4217,- per month for the ER fellow. Additional mobility and travel allowances apply.

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowships at the ICTA/UAB if

- you are a Spanish national and have legally resided and had your main activity outside Spain and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a Spanish national and have not resided or carried out your main activity in Spain for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- as an applicant for an ESR (PhD) fellowship you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;
- as an applicant for the ER (post-doctoral) fellowship you are within the first 5 years (full time equivalent) at the time of the appointment, starting from the date when you obtained the degree which formally entitled you to embark on a doctorate.

Application documents. Applicants submit by mail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees.

Contact. Dr. Rainer Zahn, Universitat Autònoma de Barcelona, Institut de Ciència i Tecnologia Ambientals, Edifici Cn – Campus de Bellaterra, E-08193 Cerdanyola del Vallès, Spain
email: rainer.zahn@uab.cat

Application deadline is 30 September 2009.

ICTA, the Universitat Autònoma de Barcelona and the GATEWAYS project employ an equal opportunity policy and particularly invite women to apply.

PARTNER 2



The *School of Earth and Ocean Sciences* at Cardiff University is a dynamic and successful **is a** multi-disciplinary centre devoted to research in the **O**cean and Earth sciences. It currently has a staff of more than 55 academics and through its Post-graduate School provides training and a high level of support for over 60 Early-stage researchers. The Schools *Palaeoclimate Research Group* is a leading team investigating the causes and scales of climate variability and the sensitivity of marine and terrestrial environments to naturally occurring climatic perturbations during the recent (historical) and geologic past.

The *School of Earth and Ocean Sciences* at Cardiff University invites applications for the following positions:

- 1 fellowship in marine palaeoclimatology of 3 years for an Early-stage Researcher (ESR) at the PhD student level;
- 1 fellowship in numerical climate modelling of 3 years for an Early-stage Researcher (ESR) at the PhD student level;
- 1 fellowship of 2 years for an Experienced Researcher (ER) at the post-doctoral level with expertise in marine science or palaeoclimatology and data/model integration.

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network "GATEWAYS".

Each fellowship will be embedded within the *Palaeoclimate Research Group*. The ESR fellowships are directed towards: (i) the quantitative reconstruction of key variables, via proxy measurements within marine sediment cores, that will allow the long-term dynamics of the Agulhas Current and deep ocean circulation to be assessed during periods of past climate change, and (ii) the numerical simulation of climatic changes that modify the Indian– Atlantic inter-ocean exchange to understand changes in the stability behaviour of the ocean thermohaline circulation and rapid climate shifts during ice ages and their termination. Analytical methodologies will include stable isotopes, trace element geochemistry, sedimentology and micropalaeontology. The fellowship in numerical climate modelling will be undertaken in close collaboration with Dr Gregor Knorr at the Alfred Wegener Institute, Bremerhaven, Germany. ESR fellows are expected to achieve a PhD degree during their fellowship. The ER fellow will collaborate across the Network to ensure maximum convergence between palaeo-data and global- to local-(nested) model output. The ER will synthesise the GATEWAYS research results associated with data-model integration.

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowships at the *School of Earth and Ocean Sciences* at Cardiff University if

- you are a UK national and have legally resided and had your main activity outside the UK and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a UK national and have not resided or carried out your main activity in the UK for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- as an applicant for an ESR (PhD) fellowship you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;
- as an applicant for the ER (post-doctoral) fellowship you are within the first 5 years (full time equivalent) at the time of the appointment, starting from the date when you obtained the degree which formally entitled you to embark on a doctorate.

Application documents. Applicants submit by mail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees.

Contact. Dr Ian Hall, School of Earth and Ocean Sciences, Cardiff University, Park Place, Cardiff, CF10 3YE, Wales, U.K. email: hall@cardiff.ac.uk

Application deadline is 30 September 2009

Cardiff University is committed to the active promotion of equal opportunities in employment.

The Leibniz Institute of Marine Sciences (IFM-GEOMAR) at the University of Kiel is one of the leading institutes in marine research in Germany. The major goal of the institute is research and development in all parts of marine sciences. Apart from basic research, applied projects between science and economy are also supported. IFM-GEOMAR is a foundation by public law, jointly funded by the federal and provincial government. The institute is a member of the Leibniz Association (WGL) and the German Marine Research Consortium (KDM).

IFM-GEOMAR invites applications for a

➤ **fellowship in physical oceanography of 3 years as an Early-stage Researcher (ESR) at the PhD student level**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network “GATEWAYS”.

The ESR fellows will be embedded within the ocean circulation and climate dynamics division at IFM-GEOMAR that conducts research in the coupled climate system. The **ESR fellowship** shall work on the variability of the greater Agulhas Current regime under contrasting climates of the past, and the impact on the global oceanic circulation. A state-of-the-art coupled ocean-atmosphere climate model, developed as Kiel Climate Model (KCM), will be actively extended and used on high-performance supercomputers to conduct this research. The ESR fellow is expected to achieve a PhD degree during his fellowship.

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowship at the IFM-GEOMAR if

- you are a German national and have legally resided and had your main activity outside Germany and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a German national and have not resided or carried out your main activity in Germany for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;

Application documents. Applicants submit by mail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees.

Contact. Dr. Arne Biastoch, IFM-GEOMAR, Düsternbrooker Weg 20, 24105 Kiel, Germany, email: abiastoch@ifm-geomar.de

Application deadline is 30 September 2009

PARTNER 4



The **Royal Netherlands Institute for Sea Research (NIOZ)** is the national oceanographic institute, embedded in the Netherlands Organization for Scientific Research (NWO), and operates the ocean-going RV Pelagia within the European OFEG-fleet (www.nioz.nl). Royal NIOZ promotes interdisciplinary marine research through collaborative (inter)national projects, training and science education, holds 11 professorships and employs 35 staff and about 70 Early-stage researchers (PhD students, post-doctoral researchers). NIOZ is situated on the Wadden Island of Texel near Amsterdam and Utrecht, the Netherlands.

Royal NIOZ invites applications for

- **2 fellowships in marine geosciences for Early-stage Researchers (ESR) at the PhD student level**
- **1 fellowship of 2 years for an Experienced Researcher (ER) at the post-doctoral level with expertise in interdisciplinary marine science and data assimilation**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network "GATEWAYS".

The **ESR and ER fellows** will be embedded in the ocean-climate research groups at NIOZ and conduct sea-going research through interdisciplinary collaboration with universities, national and abroad. All fellowships are directed towards unraveling the modern and past climate dynamics of Indo-Atlantic exchange, departing from the upstream Agulhas Current system off southeast Africa. Through international sea-going research, GATEWAYS fellows will develop and interpret time-series records of modern ocean circulation from moored in-situ observations that will be coupled to sediment records of past ocean climate. Analytical methodologies comprise trace element and molecular biomarker biogeochemistry, stable- and radio-isotope spectrometry, particle characterization and spectral coresampling. **ESR fellows** are expected to achieve a PhD degree during their fellowship and participate in research cruises. The **ER fellow** will contribute to structure and integrate the project databases on the upstream Agulhas Current system, building up and maintaining an interactive data/sample management and visualization platform for Network-wide access. The ER will synthesise the GATEWAYS research results in his/her field of expertise.

Elegibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowships at Royal NIOZ if;

- you are a Dutch subject and have legally resided and had your main activity outside The Netherlands and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a Dutch subject and have not resided or carried out your main activity in The Netherlands for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- as an applicant for an ESR (PhD) fellowship you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;
- as an applicant for the ER (post-doctoral) fellowship you are within the first 5 years (full time equivalent) at the time of the appointment, starting starting from the date when you obtained the degree which formally entitled you to embark on a doctorate.

Application documents. Applicants submit by mail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees.

Contact. Dr. Geert-Jan Brummer or Dr. Stefan Schouten, Royal NIOZ, P.O. Box 59, 1782 AB Den Burg, Texel, The Netherlands. E-mail: Geert-Jan.Brummer@nioz.nl, Stefan.Schouten@nioz.nl

Application deadline is 30 September 2009.

Royal NIOZ and the GATEWAYS project employ an equal opportunity policy and particularly invite women to apply.

The Faculty of Earth and Life Sciences, department of Earth Sciences of the VU University Amsterdam is offering:

➤ **2 junior research fellowships in marine palaeoclimatology (ESR Fellowships)**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network "GATEWAYS".

The ESR fellows will be embedded within the section marine Biogeology of the Faculty of Earth and Life Sciences. The **ESR fellowships** (Early Stage Research fellowships) are directed towards establishing the variability of the greater Agulhas Current regime off southeast Africa under contrasting climates of the past, and the dynamics of the water transport from the Indian Ocean to the Atlantic during these times. Analytical methodologies will comprise micropalaeontology, stable isotope and trace element geochemistry. The main research challenges will be to reconstruct past Agulhas gateway geometry and sea-water characteristics, such as temperature and salinity, for periods of different climate states during the Late Pleistocene. This in order to obtain a systematic and consistent view of the transient development of glacial to inter-glacial inter-ocean exchange dynamics. The junior research fellows will develop and apply quantitative microfossil and geochemical indices / proxies for past Indian-Atlantic water exchange.

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowships at the VU University Amsterdam if:

- you are a Dutch national and have legally resided and had your main activity outside The Netherlands and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a Dutch national and have not resided or carried out your main activity in The Netherlands for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- you hold a Master degree in a relevant field, with experience in at least one of the fields of palaeo-oceanography, marine biology or marine chemistry, and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;

Duration of contract. Each fellowship appointment will be 1,0 fte for a period of 36 months. ESR fellows are expected to achieve a PhD degree during their fellowship.

Salary The salary is according to the standards for Masters level researchers (Researcher 4) minimum € 2.379,- (salary scale 10), gross per month, based on a full-time employment. You can find information about our fringe benefits of employment at www.vu.nl/vacatures

Application documents. Applicants submit, **with reference to the vacancy number**, a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees. Send your application, either by mail or email, to the VU University Amsterdam, attn. Dr. J.M.R.M. Neutelings, Managing Director, Faculty of Earth and Life Sciences, De Boelelaan 1085, 1081 HV Amsterdam. Applications by email should be send to: falw-vacatures@falw.vu.nl

Contact. More information about the department of Earth Sciences can be found at www.falw.vu.nl. Information on the fellowship positions can be obtained from Dr. Frank Peeters, Faculty of Earth and Life Sciences, section Marine Biogeology, VU university Amsterdam, The Netherlands. Tel. +31 (0)20 5987419. email: frank.peeters@falw.vu.nl

Application deadline is 30 September 2009

The VU university Amsterdam and the GATEWAYS project employ an equal opportunity policy and particularly invite women to apply.



PARTNER 6

The Geological Survey of Israel (GSI) is a government research institute operating under the Earth Science Research Administration within the Ministry of National Infrastructures, and is involved in earth science research and development in the broadest senses, adapting itself to the changing needs of a small and dynamic country. The objectives of the GSI are: to document, study and conduct research in all aspects of the country's geology, to act as an advisory body to all government branches and major public and private enterprises, to maintain a national and regional earth sciences data base, and to maintain an analytical infrastructure.

Its present staff numbers some seventy tenured and some twenty temporary employees, most of whom are scientists (geology, chemistry, physics). In addition, twenty M.Sc. and Ph.D. students carry out their research within the framework of the GSI.

GSI invites applications for

- **1 fellowship in marine palaeo-climatology for 3 years for an Early-stage Researcher (ESR) at the PhD student level**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network "GATEWAYS".

The ESR fellow will be embedded within the palaeo-climate science section in GSI that conducts research into terrestrial and marine palaeo-climatology and palaeo-environments. The **ESR fellowship** is directed towards establishing the climatic variability as recorded in speleothems from caves in the Cape region of South Africa. Notably, the linking between terrestrial climate variability and variable warm-water transports in the Agulhas Current off the coast of South Africa in the past will be assessed. Analytical methodologies comprise uranium-series dating of speleothems, stable isotope and trace element geochemistry.

Eligibility: Following EU recruitment and mobility regulations you are eligible to apply for the fellowship at the GSI if

- you are an Israeli national and have legally resided and had your main activity outside Israel and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a Israeli national and have not resided or carried out your main activity in Israel for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;

Application documents: Applicants should submit by mail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees.

Contact. Dr. Miryam Bar-Matthews, Geological Survey of Israel, 30 Malchei Israel St. Jerusalem, 95501 Israel.

Email matthews@gsi.gov.il

Application deadline: 30 September 2009

The Geological Survey of Israel and the GATEWAYS project employ an equal opportunity policy and particularly invite women to apply.



Department of Oceanography



PARTNER 7

The Department of Oceanography at the University of Cape Town is the only one of its kind in sub-Saharan Africa. It offers undergraduate and postgraduate training in Physical and Chemical Oceanography, Climate Science and Atmospheric Science. Currently, there are about 15 MSc and 20 PhD students and several post-doctoral fellows in the department. Research is carried out on a range of problems related to the Agulhas and Benguela Current systems, the Indian, South Atlantic and Southern Oceans, the climate of the Southern Hemisphere, severe weather, regional ocean-atmosphere interaction, remote sensing and marine chemistry. The department hosts the Marine Research Institute which brings together over 40 academic staff and researchers at UCT who have interests and expertise in many areas of Marine Science.

UCT Department of Oceanography invites applications for

- **2 fellowships in modelling of 3 years each for Early-stage researchers (ESR) at the PhD student level. One fellowship will focus on ocean modelling and the other on atmospheric modelling**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network "GATEWAYS".

The **ESR fellowships** are directed towards using models to help establish the variability of the greater Agulhas Current regime off southeast Africa under contrasting climates of the past, the dynamics of the water transport from the Indian Ocean to the Atlantic during these times, and the impacts on the regional climates of Africa south of the equator. It is envisaged that the fellows will make use of the Regional Ocean Modeling System, the UKMO HadAM3 atmospheric general circulation model and the WRF regional atmospheric model. Coupling of the regional ocean and atmospheric models may also be considered. ESR fellows are expected to achieve a PhD degree during their fellowship.

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowships at the University of Cape Town if

- you are a South African national and have legally resided and had your main activity outside The Republic of South Africa and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a South African national and have not resided or carried out your main activity in The Republic of South Africa for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate;

Application documents. Applicants should submit by airmail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees. Informal queries may be submitted by email.

Contact. Professor Chris Reason, Dept. of Oceanography, University of Cape Town, Private Bag X3, Rondebosch, 7701, South Africa. Tel. +27 21 650-5311.
email: chris.reason@uct.ac.za

Application deadline is 30 September 2009

The University of Cape Town and the GATEWAYS project employ an equal opportunity policy and particularly invite women and minorities to apply.

The marine climate research unit at the Institute of Geosciences (IfG) at Christian-Albrechts University (CAU) consists of about 20 researchers at the senior and junior level who have broad expertise in marine geology and palaeoceanography, modelling of coupled ocean-atmosphere and biochemical processes, organic geochemistry and biomarkers, sediment and water geochemistry. This team intimately cooperates with the Leibniz-Laboratory for Radiometric Dating and Stable Isotope Research at the CAU. State of the art instrumentation is applied for measurements of chemical, stable isotope and trace element composition of marine and lacustrine sediments, water, and microfossils, stable isotope analysis of specific compounds of organic matter, and radiocarbon dating. For data processing multivariate statistical methods, time series analysis, and GIS based mapping and visualization methods are applied. Complex interaction in the climate system and marine processes are investigated by own design and execution of experiments with state-of-the art coupled atmosphere-ocean-biochemical models and data-model comparison.

IfG/CAU Kiel invites applications for

- **2 fellowships in palaeoclimate research of 3 years each for Early-stage Researchers (ESR) at the PhD student level**

The fellowships are sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network “GATEWAYS”.

The ESR fellows will be members of our team executing research activities that are dedicated to the investigation of the impact of rapid changes in ocean circulation on terrestrial climate with a particular focus on the hydrological cycle and the study of biogeochemical processes that result in direct coupling between climate change and carbon cycling via continental weathering and runoff, marine nutrient inventories, biological productivity and carbon storage at the sea floor. For GATEWAYS the study area for the **ESR fellows** will be the subtropical Indian Ocean with special emphasis on climatic teleconnections between the Agulhas Current and continental climate of eastern South Africa working on Holocene and late Pleistocene sediment sequences in the vicinity of Zambezi and Limpopo rivers. ESR fellows are expected to achieve a PhD degree during their fellowship. The research unit is partner of the Kiel excellence cluster Future Ocean and PhD students will be members of the Integrated School of Ocean Sciences (ISOS).

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowships at the IFG/CAU if

- you are a German national and have legally resided and had your main activity outside Germany and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a German national and have not resided or carried out your main activity in Germany for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- as an applicant for an ESR (PhD) fellowship you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate

Application documents. Applicants should send by mail a letter of interest, their curriculum vitae, and the name, address, email and telephone number of two referees to Prof. Ralph Schneider, Institute of Geosciences, Christian-Albrechts University, Ludewig Meyn Strasse 10, 24118 Kiel, Germany, email: schneider@gpi.uni-kiel.de

Application deadline is 30 September 2009

Further information: www.ifg.uni-kiel.de, www.ozean-der-zukunft.de/english

PARTNER 9

Climate Risk Analysis (CRA) is a research company working on risk quantification of extreme climate/weather events and statistical analysis of climate time series. CRA is young and expanding, it was founded in 2005 by Manfred Mudelsee and resides in Hannover, Germany. CRA has pioneered mathematical simulation approaches for realistic quantification of the uncertainties of estimated climate parameters. CRA/Mudelsee are rooted in mathematics, physics and geology and have developed close collaborations with various Earth Science disciplines such as Oceanography or Glaciology. See www.mudelsee.com for more information about CRA.

CRA invites applications for

- **1 fellowship in statistical palaeoclimatology of 3 years for an early-stage researcher (ESR) at the PhD student level**

The fellowship is sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network “GATEWAYS”.

The **ESR fellowship** is directed towards (1) developing further and adapting existing own methods of climate time series analysis and (2) applying these methods to data provided by GATEWAYS partners. The overall aim is to quantify the variability of the greater Agulhas Current regime off southeast Africa under contrasting climates of the past and to identify potential drivers of that important ocean variable. Analytical methodologies comprise Fortran 90 programming, Monte Carlo testing and developing graphical user interfaces. The ESR fellow is expected to achieve a PhD degree during the fellowship. She or he will collaborate closely with other GATEWAYS partners.

Eligibility. Following EU recruitment and mobility regulations you are eligible to apply for the fellowship at CRA if

- you are a German national and have legally resided and had your main activity outside Germany and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to your appointment;
- you are not a German national and have not resided or carried out your main activity in Germany for more than 12 months in the 3 years immediately prior to their appointment (short stays such as holidays are not taken into account);
- you hold a Master degree in a relevant field and are in the first 4 years (full-time equivalent) of your research career, including the period of research training, starting at the date of obtaining the degree which formally entitles you to enter a doctorate.

Application documents. Applicants submit by mail a letter of interest, their curriculum vitae, and the names, addresses, email addresses and telephone numbers of two referees. Please include a CD containing the full application as a single PDF file.

Contact. Dr. Manfred Mudelsee, Climate Risk Analysis, Schneiderberg 26, 30167 Hannover, Germany, email: mudelsee@mudelsee.com

Application deadline is 30 September 2009.

CRA and the GATEWAYS project employ an equal opportunity policy
and particularly invite women to apply.