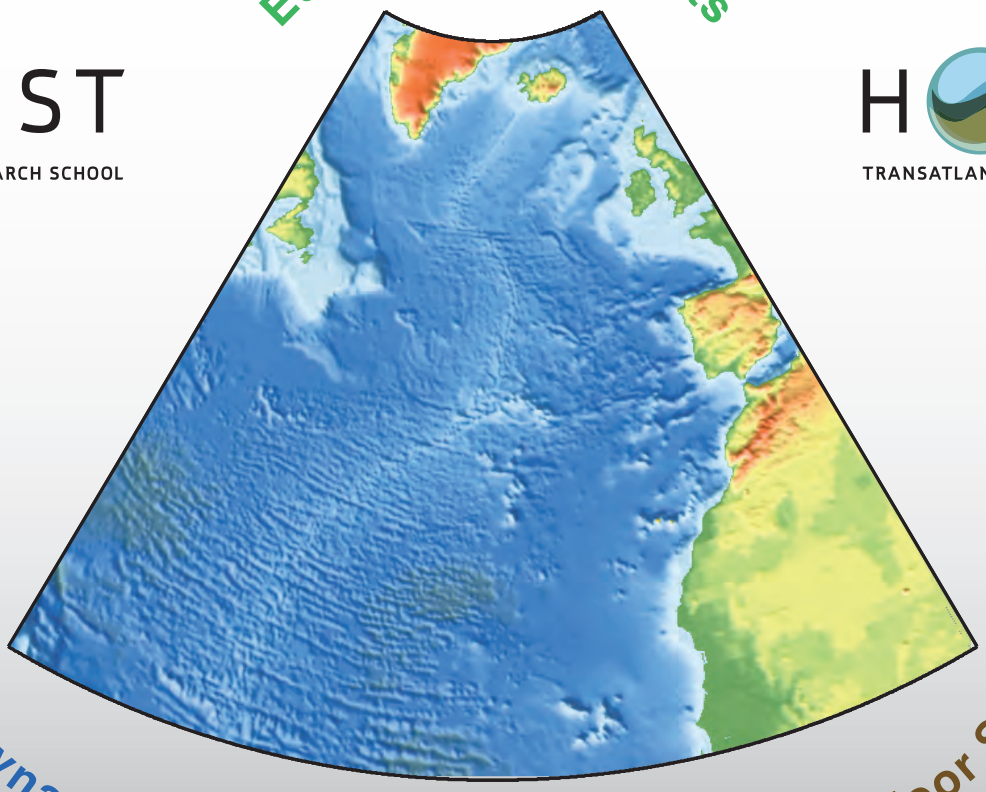
Graduate Research School
"Ocean System Science and Technology"



TOSST
TRANSATLANTIC RESEARCH SCHOOL

HOSST
TRANSATLANTIC RESEARCH SCHOOL

TOSST-HOSST Cape Verde Summer School 2015

"The Seafloor and Marine Ecosystem Structures of Cape Verde:
Building Capacity for Science-based Management"

May, 18-29, 2015

DALHOUSIE UNIVERSITY
Inspiring Minds

Institute for OCEAN RESEARCH Enterprise

INDP

C|A|U
Christian-Albrechts-Universität zu Kiel

GEOMAR
Helmholtz Centre for Ocean Research Kiel

Concept of the Summer School

The Summer School on "Ocean Biodiversity and Management" is organized jointly by the "Helmholtz Ocean System Science and Technology" (HOSST) research school of GEOMAR and Kiel University, Kiel, Germany and the "Transatlantic Ocean System Science and Technology" (TOSST) research school of Dalhousie University, Halifax, Canada in cooperation with the Instituto Nacional de Desenvolvimento das Pescas (INDP) MIndelo, Cabo Verde. The theme of the Summer School focuses on how ocean system science and technology can contribute to ecosystem-based management of marine biodiversity. Participants will include the Kiel- and Halifax-based graduate students, as well as students from Cabo Verde and other countries of West Africa (Togo, Benin, Mauretania). The Summer School will combine lectures by HOSST, TOSST and Cabo Verdian scientists, visits to local scientific facilities (CVAO), markets and industries, participation in the "International Marine and Atmospheric Science Symposium", oceanographic and intertidal sampling, snorkelling, a field trip on Fogo, as well as an island-wide beach cleanup. The students will be exposed to local culture as much as possible by visiting villages.

The students will use an interdisciplinary approach and the knowledge gained from their experiences on the ground, to prepare a proposal for a 10-year science plan on potential priorities for the new Ocean Science Centre Mindelo (OSCM). Through presentations, the students will receive feedback on the feasibility and interest of their proposals by Cape Verdian scientists and HOSST and TOSST instructors.

Agenda

Sunday, May 17, 2015

17:00 h	Lecture (preparation for group topic) Integrated Coastal Zone Management (ICZM) – Prof. Lucia Fanning (TOSST)	INDP

Monday, May 18, 2015

9:00 h	Registration	INDP
9:30 – 10:00 h	Opening and welcome INDP Director - Carlos Santos INDP President - Osvaldina Duarte Silva HOSST Project - Prof. Christian Dullo (Project Speaker) TOSST Project - Prof. Anna Metaxas (representing Project Speaker Doug Wallace)	INDP Audience Room
10:00 – 10:30 h	Introduction of Summer School Program "Purpose of School" - Prof. Anna Metaxas (TOSST)	
10:30 – 11:00 h	*Coffee Break*	
11:00 – 12:33 h	Students present their research (31 Students, 3 Minutes)	
12:30 – 14:00 h	*Lunch Break*	At INDP (Buffet lunch for all)
14:00 – 14:45 h 15:00 – 15:45 h 15:45 – 16:30 h 16:30 – 17:15 h	Lecture about local fisheries - Albertino Martins (INDP) Lecture global fisheries - Prof. Boris Worm (TOSST) Introductory lectures dust - Prof. Julie LaRoche (TOSST) Introductory lectures atmospheric chemistry – Prof. Hartmut Hermann (TROPOS, Germany)	INDP Audience Room
18:30 – 20:30 h	*Icebreaker* – Students only – prepared by Cape Verdian Students Traditional Cape Verdian Snacks	Hotel Porto Grande

Tuesday, May 19, 2015

09:00 – 09:30 h 09:30 – 10:30 h	Group A at Fish Market (INDP-Technician) Group A in INDP Lab	Groups C, D & E Plankton sampling at Cova di Inglesa (behind INDP) with Prof. Julie LaRoche (TOSST)
10:00 – 10:30 h 10:30 – 11:30 h	Group B at Fish Market (INDP-Technician) Group B in INDP Lab	
11:30 – 12:30 h	Free for Group A & B	
12:30 – 13:45 h	*Lunch Break*	INDP Cafeteria
13:45 – 14:00 h	Bus pick up	INDP
	Group A & B	Group C, D & E
14:00 – 15:00 h	Visit CVAO station - Luiz Mendez (ORG)	Visit local community Calhau
15:00 – 16:00 h	Visit local community Calhau	Visit CVAO station - Luiz Mendez (ORG)
16:00 – 18/19:00 h	Monte Verde overview	

Wednesday, May 20, 2015

08:00 – 08:30 h 08:30 – 09:30 h	Group C at Fish Market (INDP-Technician) Group C in INDP Lab	Groups A & B Plankton sampling at Laginha with Prof. Julie LaRoche (TOSST)
09:00 – 09:30 h 09:30 – 10:30 h	Group D at Fish Market (INDP-Technician) Group D in INDP Lab	
10:00 – 10:30 h 10:30 – 11:30 h	Group E at Fish Market (INDP-Technician) Group E in INDP Lab	
12:30 – 13:30 h	*Lunch Snack*	INDP
13:30 – 14:00 h	Lecture on Coastal Dynamics – Vito Melo (INDP)	INDP Audience Room
14:00 – 14:45 h	Lecture on Beach Waste – Aguinaldo David (Friends of Nature) and Jacqueline Silva (Camara Municipal)	
14:00 – 14:45 h	*Break*	
15:00 – 15:30 h	Plankton sampling results - Prof. Julie LaRoche (TOSST)	
15:30 – 16:30 h	Lecture: Marine Reserve of Santa Luzia and Islets in the context of the Biosfera Activities to protect the environment – Tommy Melo from Biosfera	
16:30 – 17:30 h	Group work: Q & A	INDP Seminar Room
20:00 -	*Joint Dinner with* "Marine and Atmospheric Science Symposium" *For registered participants:* *All Students of the Summerschool and HOSST+TOSST PIs*	Restaurant "Le Goût de Grills" Rua da Praia – Close to Belem Tower

Thursday, May 21, 2015

08:30	Marine and Atmospheric Science Symposium See program	INDP
13:00- 14:00 h	*Lunch break - Fingerfood*	
	Marine and Atmospheric Science Symposium See program	
15:40 – 17:00 h	Posters and Beer	

Friday, May 22, 2014

08:30	Marine and Atmospheric Science Symposium See program	INDP
12:15 – 14:00 h	*Lunch*	
14:00 h	São Pedro Fishing Village Meet local fishing communities and boat trip 5 groups with 6 to 7 students go to fishing vessel (life vests needed)	Bus pick up at INDP
	Dinner: Local food	At beach
19:30 h	Drive to Hotel	Bus pick up

Saturday, May 23, 2015

06:30 – 12:00 h	Island-wide Beach Clean Up on Turtle Protection Day! Go in groups and compare data afterwards	Meet at Ponte Agua Meet Back at Laginha
14:00 – 18:00 h	Project work in individual groups (A-E)	Individual places

Sunday, May 24, 2015

09:30 – 9:45 h	Lecture "Corals of Cabo Verde: biodiversity, distribution and conservation" – Prof. Corinne Almeida (University of Cabo Verde)	Hotel Oasis – Conference room
10:00 – 10:45 h	Lecture "Cabo Verdean Ichthyofauna: a summary of coastal richness, cryptobenthic and endemic species" - Rui Freitas (University of Cabo Verde)	
11:00	Bus pick up and drive to Baías das Gatos	At Hotel
11:00 – 13:30 h	Beach and coast observation including snorkelling	At Baías das Gatos

13:30 – 15:30 h	Lunch Buffet	Baías das Gatos
15:30	Bus pick up and drive to Salamansa	At Baías das Gatos
16:00 – 17:00 h	Talk to fishing community in Salamansa Fishing Village	Salamansa
17:00 h	Bus pick up	At Salamansa
Ca. 17:30 h	Back to Hotel	

Monday, May 25, 2015

08:45 h	Drive to industrial complex		Bus pick up at Hotel
09:00 h	Visit to industrial complex in groups		
	Groups A, B & C	Groups D & E	
10:00 – 11:00h	Frescomar	CPCI	
11:00 – 12:00h	CPCI	Frescomar	
12:00 – 13:00h	*Lunch*		Frescomar tbc
	Work on Summer School Topic !		

Tuesday, May 26, 2015

	Seafloor Structure Topic on Fogo Island	
5:30 – 6:00 h	Groups I – Pick up from Hotel	Groups assigned later
6:30 - 7:10 h	Transport from Sao Vincente to Fogo	
8:00 – 8:30 h	Groups II – Pick up from Hotel	
9:00 – 9:50 h	Transport from Sao Vincente to Fogo	
	Lecture: Seafloor structures - Prof Colin Devey (HOSST) and Dr. Thor Hansteen (HOSST) Overnight stay at Hotel on Fogo !	

Wednesday, May 27, 2015

	Lecture: Seafloor structures - Prof Colin Devey (HOSST) and Dr. Thor Hansteen (HOSST)	
16:00 – 16:50 pm	Groups I – transport from Fogo to Sao Vincente	
16:50 – 17:00 h	Groups I - from SV airport to Hotel	
18:40 – 19:30 h	Groups II - transport from Fogo back to Sao Vincente	
19:30 – 19:45 h	Groups II - from SV airport to Hotel	

Thursday, May 28, 2015

All day	Work on Summer School topic – Submit paper by email	Individual places

Friday, May 29, 2015

	Students to prepare their presentations	INDP
12:00h – 13:00 h	*Lunch*	
13:00h – 16:00 h	Student presentations: 5 Groups, 20 Min + Questions	
19:00h – 23.30 h	*Official / Thank-you-Dinner with invited supporters*	Restaurant Sodade

Programe of the Science Symposium

Thursday, May 21, 2015

International Marine and Atmospheric Science Symposium – Science Cases – May 21st to 22nd, 2015

Discipline	Day	No.	Time	Topic/Title	Speaker	Affiliation	Country
Geology	21/05	1.	09:10	Geophysical Network of Cape Verde and results of seismic activity off shore of Brava and S. Antão. Precursors of 2014 Fogo eruption.	Bruno Faria	INMG - Instituto Nacional de Meteorologia e Geofísica	Cabo Verde
		2.	09:30	The Cape Verde Seamounts - tbd	Thor Hansteen	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany
Atmosphere		3.	09:50	Long term observations of the background atmosphere at the CVAO	James Lee	University of York	United Kingdom
		4.	10:10	Variability of greenhouse gases and their isotopic composition at the Cape Verde Atmospheric Observatory	Martin Heimann	MPI Jena, Max-Planck-Institute for Biogeochemistry Jena	Germany
		5.	11:00	Research at CVAO – tbd	Elena Kozlova	University of Exeter	United Kingdom
		6.	11:20	Aerosol particle characterization at the CVAO: Long-term and ocean-atmosphere-interaction studies	Hartmut Herrmann	TROPOS Leibniz-Institute for Tropospheric Research in Leipzig	Germany
		7.	11:40	Properties of the Saharan Dust Layer over Marocco and Cape Verde – results from lidar measurements during the Saharan Mineral Dust Experiments (SAMUM)	Dietrich Althausen	TROPOS Leibniz-Institute for Tropospheric Research in Leipzig	Germany
Biogeochemistry		8.	12:00	Multidisciplinary time-series observations at the Cape Verde Ocean Observatory mooring	Johannes Karstensen	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany
		9.	12:20	Resolving the unresolved - a multi-platform approach to investigate biogeochemical processes on enhanced spatio-temporal scales at CVOO	Björn Fiedler	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany
		10.	12:40	Particle dynamics and sedimentation in the Eastern Atlantic between Cape Verde (CVOO) and Cape Blanc	Gerhard Fischer	MARUM – Centre for Marine Environmental Sciences	Germany
		11.	14:00	Characterization of the Physical and Chemical Parameters of Mudeira Bay, Cabo Verde, Northeast Altantic	Corrine Almeida	Uni CV - Universidade de Cabo Verde	Cabo Verde

Thursday, and Friday morning May 21-22, 2015

International Marine and Atmospheric Science Symposium – Science Cases – May 21st to 22nd, 2015

		12.	14:20	Hydrodynamics of material flux in an archipelago system – the case of Cabo Verde and the connectivity of the insular ecosystem	Aníbal Medina	PRAO-CV Projeto Regional das Pescas em África Ocidental	Cabo Verde
		13.	14:40	Does Saharan dust drive ocean's productivity?	Julie LaRoche	Dalhousie University Halifax	Canada
Biology / Ecology		14.	15:00	Nekton and macrozooplankton fauna - Establishing a baseline on oceanic pelagic fauna in the Cape Verde area	Henk-Jan Hoving	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany
		15.	15:20	Characterization of zooplankton communities associated with an anticyclonic eddy in the northeast of the islands of Cabo Verde	Miryam Edvan Lima	Uni CV – Universidade de Cabo Verde	Cabo Verde
	22/05	1.	09:00	Marine and Coastal Biodiversity of the Canary Current with a Case Study of the Cape Verde region	Mahfoudh Ould Taleb Ould Sidi	IMROP – Institut Mauritanien de Recherches Océanographiques et des Pêches	Mauritania
		2.	09:20	Turtle protection: team work, education and results	Christophe Eizaguirre	Queen Mary University of London	United Kingdom
		3.	09:40	Traceability of West African fisheries products	Reinhold Hanel	Thünen Institute – Institute of Fisheries Ecology	Germany
		4.	10:40	Um laboratório do processo de gestão e da governação participativa na sub-região	Gildo Robalo	CIPA – Centro de Investigação Pesqueira Aplicada	Guinea-Bissau
		5.	11:00	*Sardinella aurita* recruitment success in the northern Gulf of Guinea	Vamara Kone	CRO - Centre de Recherches Océanologiques	Ivory Coast
		6.	11:20	Ecosystem Approach to the management of fisheries and the marine environment in West African waters (AWA)	Heino Fock	Thünen Institute – Institute of Sea Fisheries	Germany
		7.	11:40	Conserving fisheries and marine biodiversity in Cabo Verde: A global perspective	Boris Worm	Dalhousie University Halifax	Canada

Participants of the Summer School Cape Verde 2015

Students

HOSST

Eyram Koku Apetcho	Togo
Swaantje Bennecke	German
Corinna Breusing	German
Annika Drews	German
Judith Elger	German
Alexandra Filippova	Russian
Sebastian Flöter	German
Stéphanie Céline Michl	German
Maryam Mirzaloo	Iran
Dominik Palgan	Polish
Ibrahim Sadiek Mohammad	Egypt

TOSST

Kristina Börder	German
Manuel Dureuil	German
Mirjam Held	Swiss
Chris L'Esperance	Canadian
Nadine Lehmann	Swiss
Jonathan Lemay	Canadian
Lorenza Raimondi	Italian
Jenni Ratten	German
Gennavieve Ruckdeschel	American
Irena Schulten	German
Yuan Wang	Chinese
Rui Zhang	Chinese

West Africa

Founi Mesmin Awo	Benin
Kodjo Mawouena Aziayibor	Togo
Kola Cédric Dedehouanou	Benin
Sidi Mohamed Mohamed Mokhtar	Mauretanien

Cape Verde

Nilson Ramos Brás	Sao Vincente
Janicia Sofia Lima	Sao Vincente
Miryam Edvam Lima	Santo Antao
Kátia Santos	Sao Vincente
Marlene Santos	Sao Vincente

HOSST & TOSST Leaders

HOSST Project Speaker

Christian Dullo (GEOMAR)

Colin Devey (GEOMAR)

TOSST Project Speaker

Doug Wallace (Dalhousie University)

Markus Kienast (Dalhousie University)

HOSST Coordinator

Christel van den Bogaard

TOSST Coordinator

Brendal Townsend

HOSST PIs

Thor Hansteen (GEOMAR)

TOSST PIs

Lucia Fanning (Dalhousie University)

Julie LaRoche (Dalhousie University)

Anna Metaxas (Dalhousie University)

Boris Worm (Dalhousie University)

Speakers from other Organisations

Name	Institute	Title	Expertise
INDP			
Osvaldina Duarte Silva	INDP	President	
Carlos Santos	INDP/CVOO	Director of DPD/Engineer	Director of Projects Development and Communications
Jorge Nascimento	INDP	Director of Public Relations	Public Relations and Event Planning
Albertino Martins	INDP	Director of DIH	Fisheries Biology and Stock Assessments
Tatiana Cabral	INDP	Biologist	Marine Biology, Aquaculture
Sandra Correia	INDP	Biologist	Shark and Turtle Conservation
Vito Melo	INDP	Biologist	Marine Biology, Oceanography
Pericles Silva	INDP	Biologist	Marine Biology, Oceanography
TROPOS			
Hartmut Hermann	Leibniz-Institute for Tropospheric Research (TROPOS), Leibniz, Germany	Head of Department	Atmospheric Chemistry
INMG			
Luís Mendes Neves	INMG	On-site manager of CVAO station	Chemist
Bruno Faria	INMG	Volcanologist	Geology

UNI Cabo Verde

Corrine Almeida	UNICV	Professor of Oceanography	Marine Biology/Oceanography
Rui Freitas	UNICV	University Teacher – Corals	Marine Biology

Biosfera

Tommy Melo	Biosfera, NGO	Director of Biosfera (Santa Luzia and Islets/Protected Areas/Conservation)	Marine Conservation

Name	Institute	Title	Expertise
ENAPOR, Frescomar			
Rogério Soulé	ENAPOR	Technical Director /Engineer	Port Business Administration
Manuel Monteiro	Frescomar Ubago Group	On-site Manager	Fish Processing Plant
Paulo Ferreira Santos	Frescomar Ubago Group	Quality Control chief	Veterinary
Cabo Verde Local Communities			
Jorge Melo	Associação Amigos de Calhau (AAC)- Calhau Friends Association	Director of AAC	Community Development, fisheries, agriculture, environmental protection
Amilton Martins /Luis Delgado	São Pedro Fishing Community Association	Director of Association	São Pedro Fisheries
Auxilio	Salamansa Fishing Community Association	Director of Association	Salamansa Fisheries
Jose (Zeca) Duarte	Artisanal Fishing- Mindelo	Head Fishermen – ORCA & ORCA II	Industrial Complex (CPCI)
Benvindo Fonseca	Fisheries Complex of Cova Inglesa (CPCI)	Director	Fisheries - Business management
Aguinaldo David	Amigos da Natureza – Friends of Nature	Director of Association, Engineer	Agronomy, agro-food, animal production and vegetation
Jacqueline R. Silva	Camara Municipal de São Vicente – SV City Hall	Environmental Engineer	Environmental Management, Quality control, Health and Safety

Summer School Groups

Group A	**Group B**	**Group C**
Awo, Mesmin	Sidi Mohamed Mokhtar	Dedehounaou
Rodriques	Silene Gomes dos Santos	Santos
L'Esperance	Wang	Zhang
Filippova	Lemay	Apetcho
Börder	Sadiek	Bennecke
Schulten	Dureiul	Elger
	Michl	

Group D	**Group E**
Kodjo Mawounea	Mirzaloo
Lima	Ramos
Raimondi	Drews
Ruckdeschel	Lehmann
Held	Breusing
Palgan	Flöter

Project Plan

During the Summer School you will have an immersive experience of marine science, marine policy and marine conservation issues on Cape Verde. Cape Verde, like marine nations around the planet, is facing a range of conflicting pressures on its marine environment but also has tremendous development potential stemming from its ocean. The Cape Verdean Government wants to put funds into marine studies as you will have seen by its building plans for the new INDP building.

But where should that money be spent? What should be the research priorities for Cape Verdean marine science? Why should these be the priorities? What benefits do they bring to Cape Verdeans? How do they place Cape Verdean science on the global map? Is it important to run a costly research vessel? How much lab capability is required? How much lab work can be outsourced? What are the scientific areas in which Cape Verde should be recruiting scientific and technical staff? How important is teaching? To what level, etc.?

As with all strategic decisions, there is no correct answer to any of these questions, just a range of weighted options.

You have a chance during the lectures, site visits, field trips and the symposium to see for yourself what challenges are facing Cape Verde and where the Cape Verdean strengths lie. You will have the chance to talk to international scientists, Cape Verdean scientists and Cape Verdeans themselves about where the problems are, where the potential is, and how they think Cape Verde should be investing in science. Your task is, in 5 groups of 6-7 students, to produce an up-to-5 page strategic plan for Cape Verdean marine science over the next decade that, in your opinion, should form potential priorities for the new Ocean Science Centre Mindelo (OSCM).

The plan will be presented in a 20-minute talk by the groups on Friday 29th May in the afternoon. Contribution by each individual is required. Components of the plan should include:

- Status Quo (brief overview, highlighting key points)
  - Where is Cape Verdean marine science now?
  - What is the state of the ocean in the Cape Verdean Exclusive Economic Zone (EEZ)?
  - What do Cape Verdeans need from their ocean?
  - How do Cape Verdeans protect their ocean at present?
- What are the marine-derived benefits and opportunities that Cape Verde has as an island nation?
- What are the threats facing the Cape Verdean ocean?
- Which key scientific themes relate to ensuring the welfare of the Cape Verdean ocean, and the specific interests of Cape Verdeans?
- How do these scientific themes align with global scientific priorities in ocean science?
- Which specific science goals can be achieved in 10 years?
- What would be a realistic budget to achieve the plan and potential sources of funding?

Short CVs of Participants

Eyram Koku Apetcho – HOSST

Physical and biogeochemical modeller

I am currently working on hypoxia in the Eastern tropical Atlantic. Because of the importance of oxygen for every living species on the Earth, its variability is of our concern especially in some particularly marine environment where oxygen low concentration is observed, the so called Oxygen Minimum Zone (OMZ).
What drive the OMZ changes in the Eastern Tropical Atlantic? As there is an interplay between physical and biogeochemical processes in the study area, I apply coupled physical – biogeochemical model in conjunction with in situ and satellite data to investigate the dynamics of Oxygen Minimum Zones in the Eastern Tropical Atlantic and also look at the connection with the climate change.

Supervisor: Prof. Dr. Andreas Oschlies, Prof. Dr. Birgit Schneider
Transatlantic Co-Supervisor: Prof. Dr. Katja Fennel

Founi Mesmin AWO – UAC/Benin

Junior Scientist in physical oceanography

My PhD research focuses on the modeling of sea surface temperature anomalies in the Gulf of Guinea. I am currently developing a coupled ocean-atmosphere conceptual model based on the main mechanisms responsible for the variability of the Eastern Equatorial Atlantic. This model is based on the conceptual models developed for understanding the dynamics of the El Nino phenomenon in the Pacific. Several studies show the deficiencies of climate models of general circulation in the eastern tropical Atlantic. These models usually have a warm bias in this region. We plan to diagnose the cause of the deficiencies of climate models through sensitivity studies in conceptual models.

Supervisor: Dr. Gaël ALORY
Co-Supervisor: Dr. Ezinvi BALOÏTCHA

Kodjo Mawouéna AZIAYIBOR - University Abomey-Calavi / Benin and University of Toulouse3 / France

Student holds a master's degree in physical oceanography and application. I am very interested in the physical processes that are causing erosion and accretion of coastal regions. My internship subject was on the coastal sediment transfer: analysis of coastal hydrodynamic and sedimentary conditions during the season of Grand Popo 2014; impact on the observed morphology. This study allowed us to better understand the dynamics of coastal Benin and processes responsible for coastal erosion.

Supervisor: Dr. Floch France (Brest)
Co-Supervisor: Rafael Almar (IRD \ LEGOS-Toulouse)

Swaantje Bennecke – HOSST

Marine biologist

My work focuses on distribution patterns of cold-water corals. I use video footage to map different coral habitats on both sites of the North Atlantic - in Norway and in the Gulf of Maine. Habitat suitability modelling is applied to determine further possible, yet unknown coral locations. In this process environmental parameters are correlated to coral presence data. Understanding the factors that drive coral distribution is essential for characterizing and protecting these habitats.

Supervisor: Prof. Dr. Christian Dullo
Transatlantic Co-Supervisor: Prof. Dr. Anna Metaxas

Kristina Börder - TOSST

Marine Biologist

The actual spatial extent of worldwide fishing is largely unknown. For my Ph.D. I map the global fishing effort using satellite vessel tracking techniques. I evaluate temporal and spatial changes of fishing pattern worldwide especially in relation to large-scale marine protected areas, which can affect fisheries by displacing fishing effort to surrounding areas and concentrating effort along the boundaries. This knowledge will be useful for fisheries management as well as conservation actions.

Supervisor: Prof. Dr. Boris Worm
Transatlantic Co-Supervisor: Prof. Dr. Martin Quaas

Nilson Ramos Brás – UNICV - Cabo Verde

Marine Biology

Recently, I worked in molecular biology area to realize my thesis degree whose the aim was to make a study of genetic traceability and characterization of mitochondrial sequences of Scad mackerel Decapterus macarellus. This is a very important pelagic species in Cape Verde, because of it's socio-economic impact and currently the value that is into manufacturing. In Cape Verde, there has been an increase in the processing of fishery products preserved and therefore, it is necessary to establish species identification methods to ensure the authentication of seafood. In this context, genetic traceability allows you to embed within a system of food traceability, the genetic information of the organism used in the preparation of processed food. This information focuses exclusively on questions of geographical origin and essence of the raw material. This work is already finished and in process for publication.

Supervisor: Prof. Dr. Corrine Almeida

Corinna Breusing – HOSST

Deep Sea Biologist

Related to the transatlantic Helmholtz Research School for Ocean System Science and Technology (HOSST) my project will focus on the mechanisms that influence speciation and patterns of population connectivity at deep sea hydrothermal vents. I will conduct genetic as well as eco-physiological analyses on mussel species of the genus Bathymodiolus and model larval dispersal to characterize the importance of reproductive, ecological and geographic isolation.

Supervisors: Prof. Dr. Torsten Reusch, Prof. Dr. Frank Melzner,
Transatlantic Co-Supervisor: Prof. Dr. Anna Metaxas

Kola Cédric Amos DEDEHOUANOU – Doctoral School "Space, Cultures and Development '/ University of Abomey-Calavi /Bénin

Geographer-Aménagiste

Sustainable development of a territory requires good spatial planning. To achieve this we use the methods of mapping and remote sensing to monitor phenomena over time. Currently finally training Master 2 Research Geoscience option and spatial planning, we work on the management of cultural heritage assets, natural materials and inventoried by local authorities of Porto-Novo and Ouidah. By the use of information technology and communication and geographic information system we evaluate heritage property conservation status over time. As part of the master 2 we worked on the topic "Natural Heritage, local and territorial development: the role and responsibilities of the municipality of Ouidah."

Supervisor: Prof. Dr. Noupko AGOSSOU

Annika Drews - HOSST

Climate modeller

My PhD work is dealing with the path of the Gulf Stream and the North Atlantic Current in a general circulation model. Climate models have problems resolving the path correctly and therefore exhibit a large cold bias in the Northwest Atlantic compared to observations. This problem is mainly due to the coarse resolution in global models, but might have other reasons as well. I am trying to improve the model performance in this area by implementing different correction techniques.

Supervisors: Prof. Dr. Richard Greatbatch, Prof. Dr. Mojib Latif
Transatlantic Co-Supervisor: Prof. Dr. Jinyu Sheng

Manuel Dureuil - TOSST

Biologist

My PhD project aims at understanding the spatial ecology of North Atlantic shark populations in order to provide a scientific basis for top predator restoration programs and an ecosystem based approach in shark conservation. As part of the project, spatial distribution, migration patterns and critical habitat areas will be identified and the overlap with human activities such as fishing as well as the effect of oceanographic or prey species changes will be investigated. The results will help to develop comprehensive protection measures of threatened North Atlantic shark populations.

Supervisor: Prof. Dr. Boris Worm
Transatlantic Co-Supervisor: Dr. Rainer Froese

Judith Elger - HOSST

Geophysicist

I am studying the history and origin of submarine landslides to better understand where and why they occur. The main approach is the analysis of seismic and other acoustic data which I combine with different local environmental information in order to better understand the whole complex process. Submarine slope failure can destroy seafloor installations and coastal infrastructure by generating tsunamis. Because human activities move further offshore it is important to find out how this influences slope stability.

Supervisor: Prof. Dr. Sebastian Krastel, Prof. Dr. Christian Berndt
Transatlantic Co-Supervisor: Prof. Dr. David Piper

Alexandra Filippova – HOSST

Paleoceanographer

My project is the application of radiogenic isotopes (Nd, Hf, Pb) and alkenones to reconstruct changes in past ocean circulation and weathering inputs in the western North Atlantic and the Labrador Sea over the past 25,000 years and to evaluate their driving mechanisms, which includes a calibration of these signatures based on present day water column and surface sediment data.

Supervisor: Prof. Dr. Martin Frank, Prof. Dr. Dirk Nürnberg
Transatlantic Co-Supervisor: Prof. Dr. Markus Kienast

Sebastian Flöter - HOSST

Biogeochemist

My thesis focuses on the boron isotope and the elemental composition of pteropod shells. I will use the shell composition of these winged snails to develop a new boron isotope-pH-calibration to reconstruct past pH and pCO2 values in the ocean. In addition my research should provide new information to biomineralisation processes in aragonitic calcifiers.

Supervisor: Prof. Dr. Anton Eisenhauer, Dr. Marcus Gutjahr,
Transatlantic Co-Supervisor: Prof. Dr. Markus Kienast

Mirjam Held – TOSST

Marine Biologist / Marine Resource Manager

My PhD research is part of the Fish-WIKS (Fisheries – Western and Indigenous Knowledge Systems) project which explores Western and distinct indigenous knowledge systems to inform fisheries governance and management in Canada. I will investigate how the different processes by which Inuit and Western science acquire, transmit, value and use knowledge can be harnessed to enhance the current regime of decision-making and consequently improve fisheries management in Nunavut (Canadian Arctic).

Supervisor: Prof. Dr. Lucia Fanning
Transatlantic Co-Supervisor: Prof. Dr. Nele Matz-Lück

John Christopher L'Esperance - TOSST

Chemical Oceanographer

My Ph.D. research involves the development of an unattended, gas chromatograph (GC) system for the detection of the conservative tracer, SF5CF3. The system will be integrated with the snorkelling, semi-submersible, Dorado vehicle (International Submarine Engineering, Port Coquitlam, B.C.) in support of intentionally released tracer studies.
Supervisors: Prof. Dr. Douglas Wallace, Prof. Dr. Mae Seto
Transatlantic Co-Supervisor: Dr. Toste Tanhua

Nadine Lehmann - TOSST

Biologist

As part of the Canadian Arctic GEOTRACES program, a research project on marine biogeochemical cycles of trace elements and their isotopes, the focus of my work will be the cycling of nitrogen and the geochemical modification of waters as they flow from the Pacific to the Labrador Sea. I am interested in using the N and O isotopic composition of nitrate as a geochemical tracer to describe both nutrient cycling and water mass distributions in the Ocean.
Supervisor: Prof. Dr. Markus Kienast
Transatlantic Co-Supervisor: nn

Jonathan Lemay - TOSST

MSc. Student in Chemical Oceanography

My research is currently focused on the interannual variability of carbon on the Scotian Shelf. My methods for data collection are twofold. The first being a buoy ~30km off Halifax harbour collecting hourly measurements of pCO2. The second is water collection along 4 major transects across the Scotian Shelf. These water samples are analysed to get dissolved inorganic carbon (DIC), total alkalinity (TA), and DI13C values. Using this data I hope to make inferences on what regulates inorganic carbon cycling on the Scotian Shelf over seasonal to annual timescales.

MSc. Supervisor: Prof. Dr. Helmuth Thomas
Transatlantic Co-Supervisor: Prof. Dr. Arne Koertzinger

Miryam Lima – University of Cabo Verde

Marine Biologist

Recently, I worked the theme "Characterization of zooplankton communities associated with an anticyclonic eddy, in the northeast of Cabo Verde". Eddies are circulating flows of different thermal characteristics than the surrounding environment. They have many impacts on the marine ecosystem, including inhibition of vertical migration of zooplankton and nekton, heavy losses of nitrogen and oxygen concentrations decrease of seawater.

Recently, eddies with low oxygen content have been identified near the Cabo Verde archipelago in the Atlantic tropical Northeast. In this context, this study was carried out with the primary objective to study the possible impacts that an anticyclonic eddy may result in the zooplankton communities.

Supervisor: Prof. Dr. Corrine Almeida

Janícia Sofia Lima Rodrigues- Cabo Verde

Marine Biologist

My graduation thesis was to evaluate the microbiological quality of bathing water on the island of São Vicente. The Cabo Verde population depends a lot from the sea not just for alimentation but for the tourism too, so the results of my work can be very important for the prevention of diseases acquired through contaminated bathing water. This results can be also useful for the conservation of marine species, especially those that are fixed. For the future I pretend to do a master's degree in biodiversity or oceanography and I would like to work with cetaceans, seabirds and turtles.

Supervisor: Prof. Mara Abu-Raya

Stéphanie Céline Michl - HOSST

Biologist

Adaptive potential of aquaculture species towards different feeding strategies Due to early adaptations, feeding high fish meal contents to trout fry could have negative effects on adult feeding with high plant protein contents. Thus first feeding based on plant proteins could be beneficial. However, the ability to adapt to alternative diets could have already been diminished by genetic adaptations of trout strains selected for production, which will be verified through a comparison of wild and farmed trout.

Supervisors: Prof. Dr. Carsten Schulz, Dr. Bernd Ueberschär
Transatlantic Co-Supervisor: Prof. Dr. Jeffrey Hutchings

Maryam Mirzaloo - HOSST

Paleoceanographer

My study is based on high-quality marine sediment cores recently recovered from the southern to southeastern Iceland margins, allowing resolving the Pleistocene to Holocene climate evolution close to Iceland at centennial to decadal timescales over the past 120.000 years. I will use Distinct volcanic ash layers to correlate the cores recoverd during Cruise P457 these will help to establish a robust core stratigraphy.

Supervisors: Prof. Dr. Dirk Nürnberg, Prof. Dr. Martin Frank
Transatlantic Co-Supervisor: Prof. Dr. Markus Kienast

Dominik Palgan - HOSST

Marine Geologist

I aim to use Icelandic hot springs as onshore analogues for hydrothermal systems in the North Atlantic to develop a predictive model for their tectonic and volcanological controls. I mapped promising sites in Iceland during last summer field season. I will use collected on land data to target areas of interest for observations of submarine hydrothermal systems along the Reykjanes Ridge, which will be collected on a cruise in September 2014, using the ROV and high-resolution bathymetry from AUV.

Supervisors: Prof. Dr. Colin Devey
Transatlantic Co-Supervisor: Prof. Dr. Keith Louden

Lorenza Raimondi - TOSST

Chemical Oceanographer

My PhD project is part of the VITALS program (Ventilation, Interaction and Transport Across the Labrador Sea), whose principal aim is to understand the dynamics of gas exchange between deep ocean and atmosphere through the Labrador Sea. My research activity focus on the connection between the surface carbon uptake and storage in the deep water along this area, and how deep convection works for the uptake of the atmospheric CO2.

Supervisor: Prof. Dr. Kumiko Azetsu-Scott (BU), Prof. Dr. Doug Wallace (DAL)
Transatlantic Co-Supervisor: Prof. Dr. Arne Körtzinger

Jenni-Marie Ratten - TOSST

Biochemist

I use molecular methods to characterize, localize and cultivate marine nitrogen fixers. This is a special group of prokaryotic and archaeal organisms that can turn dinitrogen gas into biological available ammonium. Until recently it was believed that the majority of nitrogen fixation in the ocean was performed by Trichodesmium sp., a non-heterocystous filamentous cyanobacteria. However, recent studies show that the diazotrophic diversity is much greater, which leaves many questions open about their role in the ocean.

Supervisor: Prof. Dr. Julie LaRoche
Transatlantic Co-Supervisor: Prof. Dr. Ruth Schmitz-Streit

Gennavieve Ruckdeschel - TOSST

Biological Oceanographer

My MSc project focusses on studying the distributions, mechanisms for distribution, and trophic connectivity of zooplankton over Emerald Basin and the Gully (Marine Protected Area) on the Scotian Shelf, through the use of Slocum gliders with an integrated 300 kHz echosounder.

Supervisor: Prof. Dr. Tetjana Ross
Transatlantic Co-Supervisor: Prof. Dr. Ulrich Sommer

Ibrahim Sadiek - HOSST

Chemist (Physical Chemistry)

Our main objective is to develop an IR-CRDS analyzer for quantitative detection of organohalogen compounds in marine environments. Utilizing a high-power tunable cw-OPO-IR laser system, the so-called saturated absorption cavity ringdown spectroscopy (SCAR) will be assessed for further sensitivity enhancement.

Supervisor: Prof. Dr. Gernot Friedrichs, Prof. Dr. Arne Körtzinger
Transatlantic Co-Supervisor: Prof. Dr. Doug Wallace

Kátia Santos- University of Cape Verde

Marine Biology and Fisheries

Recently, I worked in molecular biology area to realize my thesis degree whose the aim was to estimate island genetic diversity and to identify the genetic stocks across the Cape Verde archipelago of the African Hind, which is a demersal specie whose its populations are drastically decreasing in this region due to high fishing pressure. Thereby, this work allowed to delimit discrete genetic units to contribute to an effective management in the region and consequently ensuring the sustainability of the current fisheries and the not disappearance of this recourse in the future. This work is already finished and in process for publication.

Currently, I am doing a pedagogical internship at a secondary school in Biology area, but I intend to do the master as soon as possible in Molecular Biology in order to study the phenomenons genetics, ecological, biologicals and oceanographics that may affect the biodiversity of my country.

Supervisor: Prof. Dr. Corrine Almeida

Marlene Santos- University of Cape Verde

Biological Sciences

My graduation thesis was based on the study of the prevalence of hyperlipidemia in São Vicente. Whereas hyperlipidemia are important cardiovascular risk factors is relevant to measure plasma lipids and lipoproteins in clinical practice in Cape Verde.
In the future I would like to know more about the substances with biological activities of the Cape Verde algae, its medicinal characteristics and to what extent they might be useful in treating certain diseases. As a recent graduate I have little experience in the subject, but I am interested in learning and developing studies on the subject.

Supervisor: Dr. Elizabeth Évora

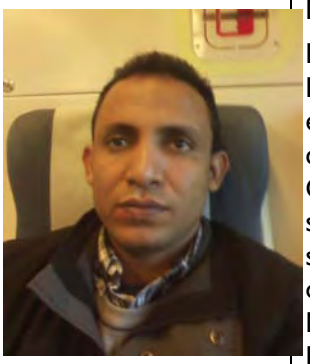
Co-Supervisor: Prof. Msc. Evandro Lopes

Irena Schulten – TOSST

Marine Geosciences

My PhD-Thesis includes the analysis and interpretation of seismic data in comparison with multibeam swath bathymetry data acquired from the St. Pierre Slope at the southwestern Grand Banks area of Newfoundland margin. This region is known for the 1929 Grand Banks earthquake, landslide and tsunami that caused severe damage and causalities in eastern Canada. The event itself is unique, as it leads to understand landslide-triggered tsunamis and the nature of turbidity currents. However, the characteristics of the submarine landslide, which was triggered by the earthquake, and how it generated such a large tsunami, is still not well understood.

Supervisor: Prof. Dr. David Mosher, Prof. Dr. Markus Kienast
Transatlantic Co-Supervisor: Prof. Dr. Sebastian Krastel

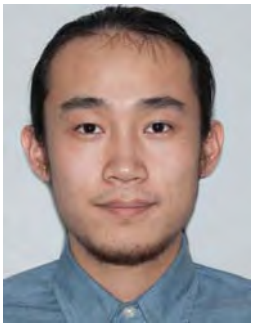


Mohamed Moctar Sidi Mohamed - University of Vigo/Spain

Marine biologist

I am currently working in the Mauritanian Institute of Oceanographic Research and Fisheries (IMROP) for the research on biodiversity and ecology of littoral benthic ecosystems. which is mainly focused in the study and evolution of sea-grass communities.
On 2014, I started my PhD studies on biodiversity of benthic ecosystems of shelf and slope off Mauritania in Vigo University (Spain). My dissertation work is based in the study of invertebrates collections, and oceanographic and sedimentological data, obtained in Mauritanian during two ecosystemic surveys carried out on board Norwegian R/V 'Dr. Fridtjof Nansen' in 2011 and 2012, in the framework of CCLME Regional project

Supervisor: Prof. Dr. Fran Ramil
Co-Supervisor: Prof. Dr. Ana Ramos



Yuan Wang - TOSST

Physical Oceanography and Ocean Modeling

My PhD work focuses on the main physical processes affecting circulation variability over the northwest Atlantic (NWA) Ocean. A 3D ocean circulation model, the Nucleus for European Modeling of the Ocean (NEMO), is used to estimate the possible changes in circulation and hydrographic distributions over the region.

Supervisor: Prof. Dr. Jinyu Sheng (Dalhousie)
Transatlantic-Co-Supervisor: Prof. Dr. Richard Greatbatch (GEOMAR)

Rui Zhang - TOSST

Oceanographer

For my PhD I will apply physical-biogeochemical models (based on ROMS and coupled biology model) to study variability of physical and ecosystem conditions in Northwest Atlantic. For example, to quantitatively evaluate how the transport of shelf break current impact the hydrographic properties and how those factors further influence the growth of lower trophic and higher trophic levels.

Supervisors: Prof. Dr. Katja Fennel
Transatlantic-Co-Supervisor: Prof. Dr. Andreas Oschlies

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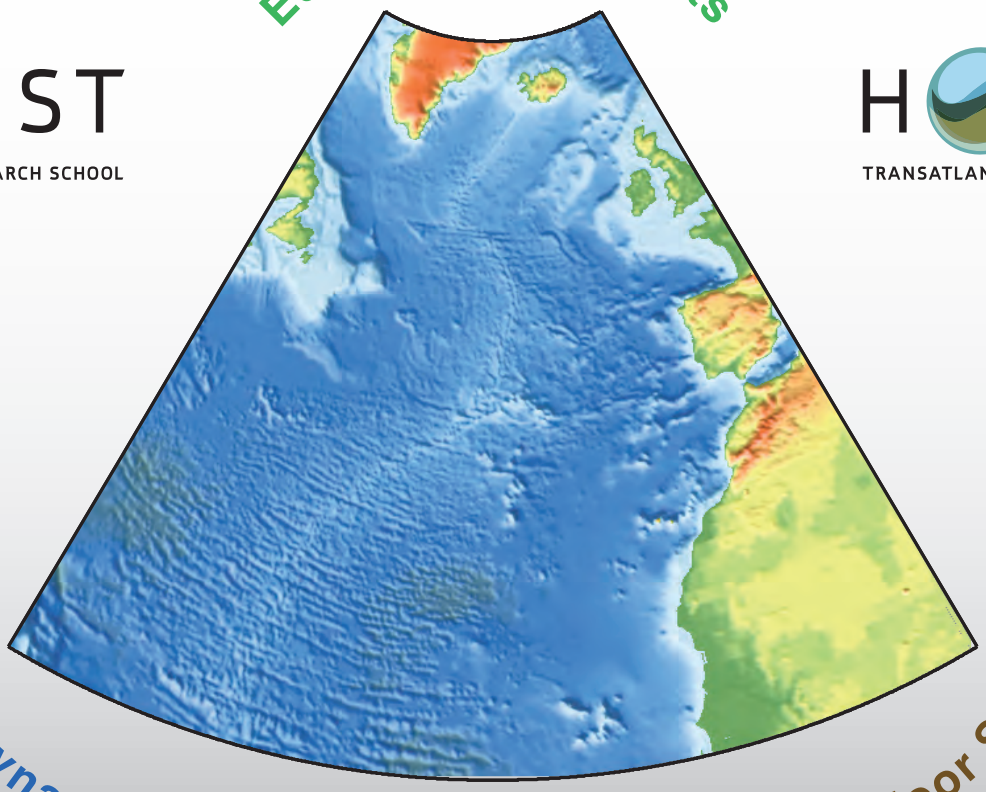

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