



ONLINE SESSIONS

Day 1– Plastic Pollution (21/11/2022)

Session 1

Talk 1: Plastic Waste Trade from Global North to Global South as a Source of Marine Plastic Pollution. Dr. Sedat Gundogdu (Cukurova University/Faculty of Fisheries, Turkey).

Talk 2: Insights into the perceived persistence and photochemical fate of plastics in the ocean. Dr. Collin P. Ward (Woods Hole Oceanographic Institution, Woods Hole, USA).

Talk 3: Plastic ingestion as an evolutionary trap. Dr. Robson Guimarães dos Santos (Universidade Federal de Alagoas, Brazil).

Session 2

Talk 4: Monitoring microplastics: sampling methodologies for surface waters and benthic sediments. Dr. João Frias (Atlantic Technological University, Ireland).

Talk 5: Monitoring microplastics in biota – challenges and recommendations. Dr. Filipa Bessa (Marine and Environment Sciences Centre, University of Coimbra, Portugal).

Talk 6: Beach litter survey by drones: operational framework and potential outcomes. Dr. Gil Gonçalves e Dr. Umberto Andriolo (Department of Mathematics and INESC Coimbra, Portugal).

Link of the online sessions, Day 1: <https://www.youtube.com/watch?v=rngtRr-jySg&t=7622s>

Day 1: Fate and Impact of plastics in Marine Ecosystems. From the land to the sea

❖ SESSION 1



Talk 1: Dr. Sedat Gundogdu
Plastic Waste Trade from Global North to Global South as a Source of Marine Plastic Pollution



Talk 2: Dr. Collin P. Ward
Insights into the perceived persistence and photochemical fate of plastics in the ocean



Talk 3: Dr. Robson G. dos Santos
Plastic ingestion as an evolutionary trap

❖ SESSION 2



Talk 4: Dr. João Frias
Monitoring microplastics: sampling methodologies for surface waters and benthic sediments



Talk 5: Dr. Filipa Bessa
Monitoring microplastics in biota – challenges and recommendations



Talk 6: Dr. Umberto Andriolo
Beach litter survey by drones: operational framework and potential outcomes

Day 2 – Oil Pollution (22/11/2022)

Session 1

Talk 1: Response of coastal fishes to basin-scale oiling. Dr. F. Joel Fodrie (UNC-CH Institute of Marine sciences, USA).

Talk 2: Environmental effects of the Deepwater Horizon oil spill. Dr. Jonny Beyer (Norwegian Institute for Water Research (NIVA), Norway).

Talk 3: Fundamental Social Dimensions of Marine Oil Spills. Dr. Liesel Ritchie (Department of Sociology; Center for Coastal Studies; Virginia Tech, USA).

Session2

Talk 4: Chemical assessments of marine oil spills – Concepts, tools, and case studies. Dr. JagosRadovic (Department of Geoscience, University of Calgary, Canada).

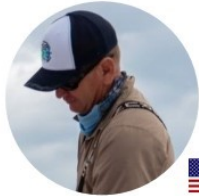
Talk 5: A pressing need to study the immediate fate and effects of oil spills. Dr. Christopher M. Reddy (Woods Hole Oceanographic Institution, USA).

Talk 6: Advances in Chemical Analysis of Oil Spills. Dr. Paul Philp (School of Geosciences, University of Oklahoma, USA).

Link of the online sessions, Day 2: <https://www.youtube.com/watch?v=CARXgLdyzEA>

Day 2: Oil Spill Investigation and Impacts in Marine Ecosystems

❖ SESSION 1



Talk 1: Dr. Joel Fodrie
Response of coastal fishes to basin-scale oiling



Talk 2: Dr. Jonny Beyer
Environmental effects of the Deepwater Horizon oil spill



Talk 3: Dr. Liesel Ritchie
Fundamental Social Dimensions of Marine Oil Spills

❖ SESSION 2



Talk 4: Dr. Jagos Radovic
Chemical assessments of marine oil spills – Concepts, tools, and case studies



Talk 5: Christopher M. Reddy
A pressing need to study the immediate fate and effects of oil spills



Talk 6: Dr. Paul Philp
Advances in Chemical Analysis of Oil Spills

ORAL PRESENTATIONS (SIDE EVENT)

In the 5th edition of the Spring School, students from the Graduate Program in Tropical Marine Sciences (PPGCMT) and from the twelve partner graduate programs were invited to participate in the Side Event, submitting abstracts of their research on human impacts on marine ecosystems. Accepted abstracts were presented in 2-minute online sessions with the main highlights of the work. The presentations are available at the links below.

Air Centre website: <https://www.aircentre.org/video-abstracts-side-events/>

Air Centre YouTube channel: https://www.youtube.com/playlist?list=PL-3G0PUXakeZbwSesHBB_Yah1yMw0h0Ov

This activity had the collaboration of the scientific committee composed of researchers and professors from PPGCMT and LABOMAR, including Dr. Alexandre Medeiros de Carvalho, Dr. Francisco Gleidson da Costa Gastão, Rafael dos Santos Rocha, Dr. Raymond David Ward, Dr. Tallita Cruz Lopes Tavares Normando, Dr. Tatiane Martins Garcia, Dr. Wilson Franklin Junior, and José Luiz Moutinho.

STUDENTS TRAINING

Around 30 participants from six Brazilian states and several universities and institutions (UFC, UECE, ICMBIO, UERJ, UFG, UFRPE, UNILAB, UFPA, UFBA, Fortaleza das Dunas), including one foreign participant (from France), attended the field and laboratory training on pollution by plastics and oils in the two days of the event.

Field activities were carried out on the beach next to LABOMAR, being based on scientific methods that promoted the direct participation of students in the activities, improving their practical knowledge of plastic and oil pollution. Day 1: Detection and monitoring of plastics on the beach by drones, with the support of the company Drone de Garagem, Fortaleza; Methods for sampling and detection of microplastics in water with the support of the company Kayakeria; Sampling and quantification methodology for beach litter. Day 2: Oil sampling in coastal environments; A survey on public perceptions of oil spills; Training on oceanic and atmospheric circulation, and its relationship with the transport of oil to the Brazilian coast in 2019.

Laboratory activities were carried out at LABOMAR's facilities, where participants received training in plastic and oil analysis based on current scientific methods. Day 1: Extraction of microplastics in water, sediments, corals, and biota. Day 2: Preparation of spilled oil samples; Analysis of spilled oils at a molecular level using chromatographic techniques; Detection of oil slicks at sea by Satellite Remote Sensing techniques.

These activities were coordinated by the visiting professors Dr. Tommaso Giarrizzo and Dr. Laercio Lopes Martins, with the collaboration of PPGCMT and LABOMAR professors Antonio Geraldo Ferreira and Gbekpo Aubains Hounsou Gbo, the researcher Emanuelle Fontenele Rabelo, the doctoral student Adriana Pereira Nascimento, the students Ana Carolina Santos Luz, Rufino Neto Andrade de Azevedo, Yasmin Nascimento de Barros, and Ravena Santiago Alves, and the undergraduate students Ocione Dias, Ana Clara Aguiar and Victória Maria Carneiro dos Santos.

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