



International Society for Tracer  
and Radiation Applications

Volume 03

**n e w s l e t t e r**

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## **Regional Training Course on the Assessment and Management of Sediment Transport in the Gulf of Guinea Sub Region Using Nucleonic Control Systems**

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Harbour basins, navigation channels and dam reservoirs are subject to sedimentation of fine particles (mud) over time. This material accumulates at the bottom of the channels and leads to diminution of the navigable depth for harbours and reduction of the dam water storage capacity of the reservoir. Remedies to these problems are mainly dredging and flushing. Nucleonic control systems provide a way around this challenge. So the IAEA TC on the 'Assessment and Management of Sediment Transport in the Gulf of Guinea Sub Region Using Nucleonic Control Systems' was hosted by The Government of Cameroon through the HYDRAC S.A. and the Port Authority of Douala, Cameroon. The training course which took place from 2 to 6 December 2019 had the objective of building and developing capacity in this unique nuclear application. The opening ceremony of the RTC was well attended by many government officials. Both the Course Director, M. David Ekoume and a representative from the government of Cameroon encouraged participants to make the most of the opportunity presented to them by the IAEA. Foreign participants from Ghana, Nigeria, Gabon and democratic republic of Congo were present. The able expert for the TC was Mr. Abdel Aziz Saadaoui from Morocco.



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Members of high table at opening ceremony

The training course consisted of lectures on the following topics: radiotracer and sealed source techniques as applied to the investigation of sediment transport in natural systems, nucleonic control systems for measurement of fine sediment deposits in harbour basins and navigation channels, radioisotope sealed source techniques for measuring suspended sediment, principle of sealed source techniques for monitoring density and concentration of sediments, gamma/X ray transmission gauges for turbidity monitoring of mud layer. Various case studies using nucleonic gauges for monitoring density and concentration of sediments, management of dams, measurement of bulk density of fine sediments deposited in reservoirs and in coastal environments were considered. The practical and interactive sessions bordered on gauge calibration. In addition to lectures and discussions, participants had the opportunity to participate in some field measurements in the Douala harbour basin and navigation channel.



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Expert giving a presentation



Participants at a presentation



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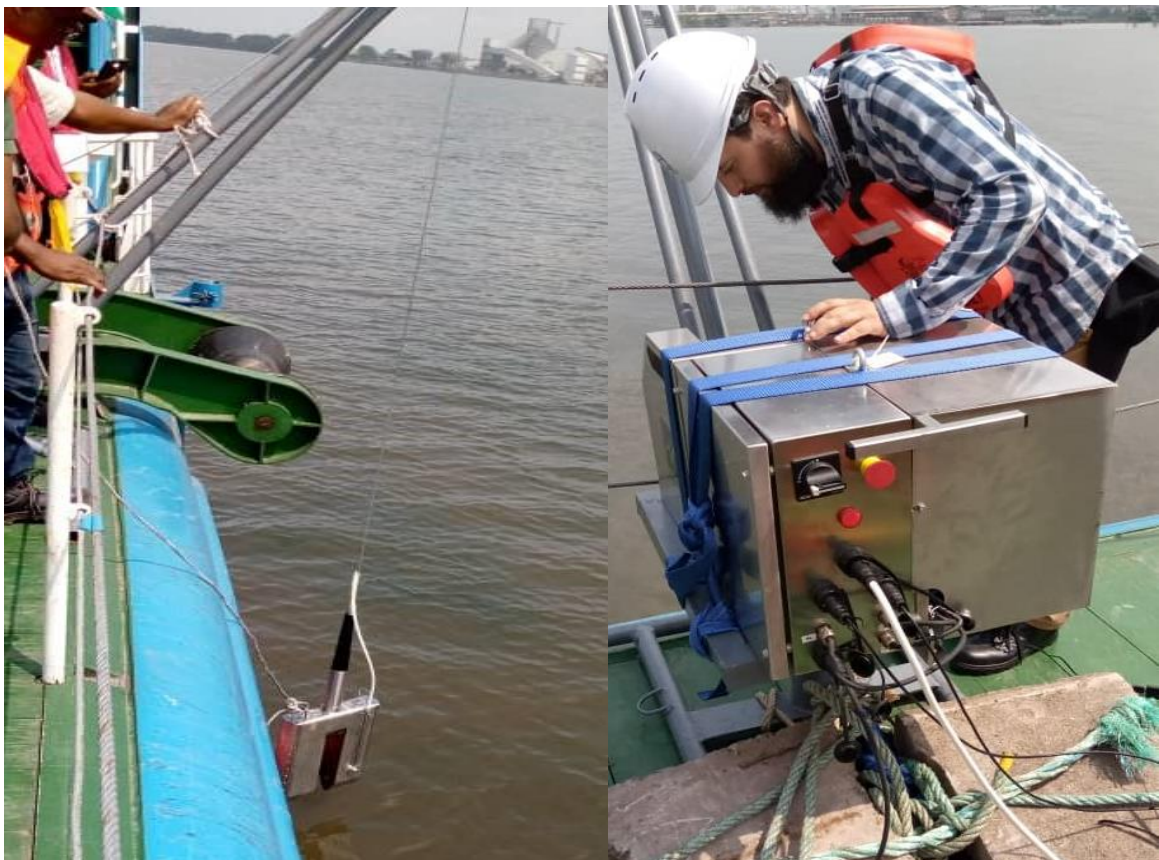
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# newsletter

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Participants and ship crew before field testing



Expert examining nucleonic guage before dropping into the water for measurements



There was a working visit to HYDRAC S.A for some presentations on its activities after which a tour of its NDT labs followed.

Closing ceremony was brief. Participants were presented with certificates and branded souvenirs from HYDRAC S.A. The participants in turn expressed their appreciation to the expert, the director, HYDRAC S.A, the port of Douala and all whose support and hard work made the TC a great success.

The TC would not have been complete without the hospitality dinner to savour the real taste of local Cameroonian cuisines!



Participants and host at dinner

text: Hannah Asamoah Affum

photos: author, host and participants