

## Report of ISPRS/CIPA workshop UNDERWATER 3D RECORDING & MODELING 2-3 May 2019, Limassol, Cyprus

The [2<sup>nd</sup> UNDERWATER 3D RECORDING & MODELING workshop](#) supported by ISPRS and CIPA, was held at Cyprus University of Technology facilities in Limassol, Cyprus from May 2<sup>nd</sup> to the 3<sup>rd</sup>, 2019. The organizing committee was Dimitrios Skarlatos (Cyprus University of Technology), Panagiotis Agrafiotis (Cyprus University of Technology and National Technical University of Athens), Marinos Vlachos (Cyprus University of Technology), Erica Nocerino (AMU Marseille and ETH Zurich), Fabio Menna (COMEX Innovation) and Fabio Bruno (University of Calabria and 3D Research srl.).

The workshop was sponsored by 3D Research s.r.l., iMARECULTURE H2020 EU project, COMEX Innovation and Geosysco Ltd., which had booths demonstrating services and equipment.

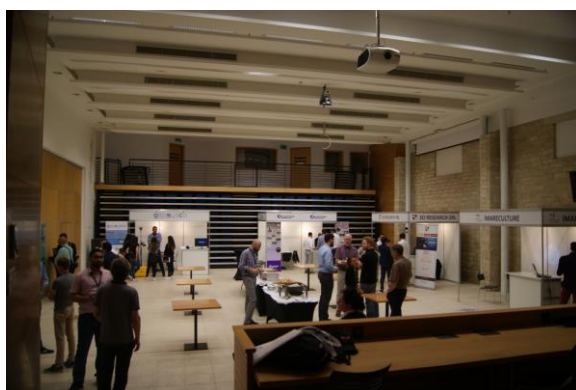


The workshop was attended by 56 individuals from 13 different countries. Of the 33 submitted abstracts, 26 were selected for publication, 19 for presentation, and 7 for posters. Three keynote speakers set the tone for the topics throughout the

conference. Rafael Garcia and Nuno Gracias from the University of Girona, (Underwater Vision and Robotics group) started the conference off presenting the current state of the art in Omnidirectional Underwater Computer Vision Research and Applications at the University of Girona. The next day, Fabio Bruno from University of Calabria and 3D Research srl. presented his speech on “Exploring underwater sites through virtual and augmented reality”. The selected papers for publication are published in [The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences](#) under Volume XLII-2/W10, 2019.

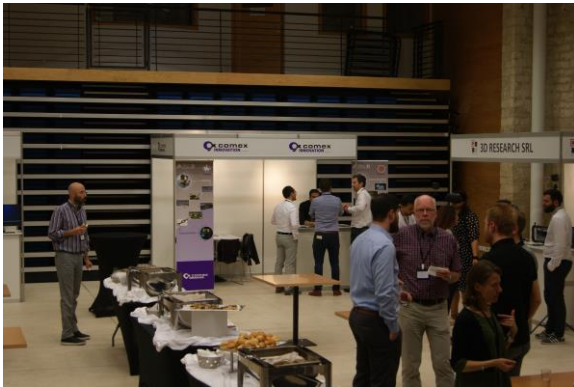


The workshop started with the opening ceremony on the morning of May 2<sup>nd</sup> where Prof. Phaedon Kyriakidis, Dean of the Faculty of Engineering and Technology of the Department of Civil Engineering and Geomatics of Cyprus University of Technology together with the CIPA President, Prof. Andreas Georgopoulos and Dr. Fabio Menna on behalf of ISPRS WGII/9 Underwater Data Acquisition and Processing, welcomed the participants, wishing them insightful and fruitful discussions about underwater 3D surveying (photogrammetry, bathymetry, etc.), 3D metrology, Virtual and Augmented reality and learning methods for facilitating faster and accurate results. Finally, Assoc. Prof. Dimitrios Skarlatos being the Workshop Chair, opened the workshop giving also an insight of the statistics and the works to be presented in this Workshop.



Interesting discussions during the poster session. Demos from the sponsors of the Workshop took also place during coffee breaks and lunches

No workshop would be complete without the usual social events. The first night of the conference opened with a social dinner at a nearby Restaurant with live music, where the conference attendees enjoyed the local tastes of Cyprus. Even after the end of the conference, no official event was organized, the participants were gathered together at a nice restaurant at the sea front of Limassol in order to continue their interesting discussions and spend time together.



Participants enjoying the locally catered food during the lunch breaks and coffees and social dinner

Through the Honor Frost Foundation which offered six bursaries for students and early career researchers from the eastern Mediterranean region to attend the conference, young underwater archaeologists from this area participated in the Workshop, enriching their knowledge in underwater mapping techniques and bringing closer the photogrammetric and the underwater archaeology communities, sharing knowledge and thoughts.

The workshop was a success, as was noted by the attendance right up until the last paper was presented. The decrease in number of participants, in comparison to the equivalent event in 2015 at Sorrento, is not related to decrease in interest in the topic of precise underwater 3D modelling, as there is an increasing number of versatile applications, such as biology, engineering, ecology, archaeology, VR, etc. The decrease could be related to the Oceans 2019 Event, held in Marcelles, just 45 days later. In the meantime, several other events hosted sessions in underwater photogrammetry since 2015, hence providing the opportunity to researchers and scholar to present their studies and results. The number of attendees and the enthusiasm for participation highlights the importance of the topic of this conference. The challenge of underwater photogrammetry and mapping as well as 3D modelling is clearly a developing field, both in terms or data acquisition equipment and practice as well as revisiting precision of final models. At the same time proves an attractive topic for many researchers, as demonstrated by this 2nd edition of the workshop UNDERWATER 3D RECORDING & MODELLING. One can expect that future conferences will be equally well received, and as such a tentative future conference will be scheduled for either 2021 or 2023.

As in any conference and workshop, good opportunities for networking and connecting with researchers interested in similar topics were offered to all the participants.

Following the Workshop activities, the best papers will be invited to submit an extended version in the [Special Issue of MDPI's Remote Sensing Open Access Journal](#). The 3 best papers will be awarded with free submission fees.

On behalf of the organizing committee,  
Dimitrios Skarlatos & Panagiotis Agrafiotis