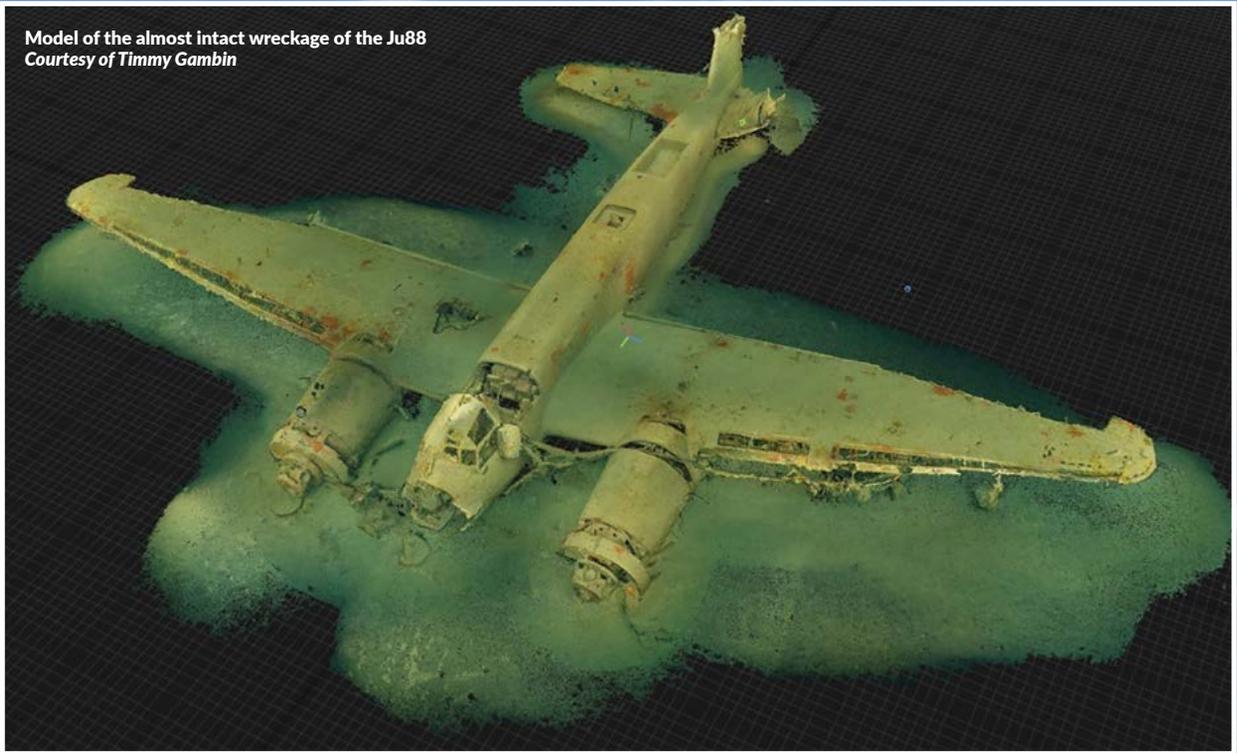
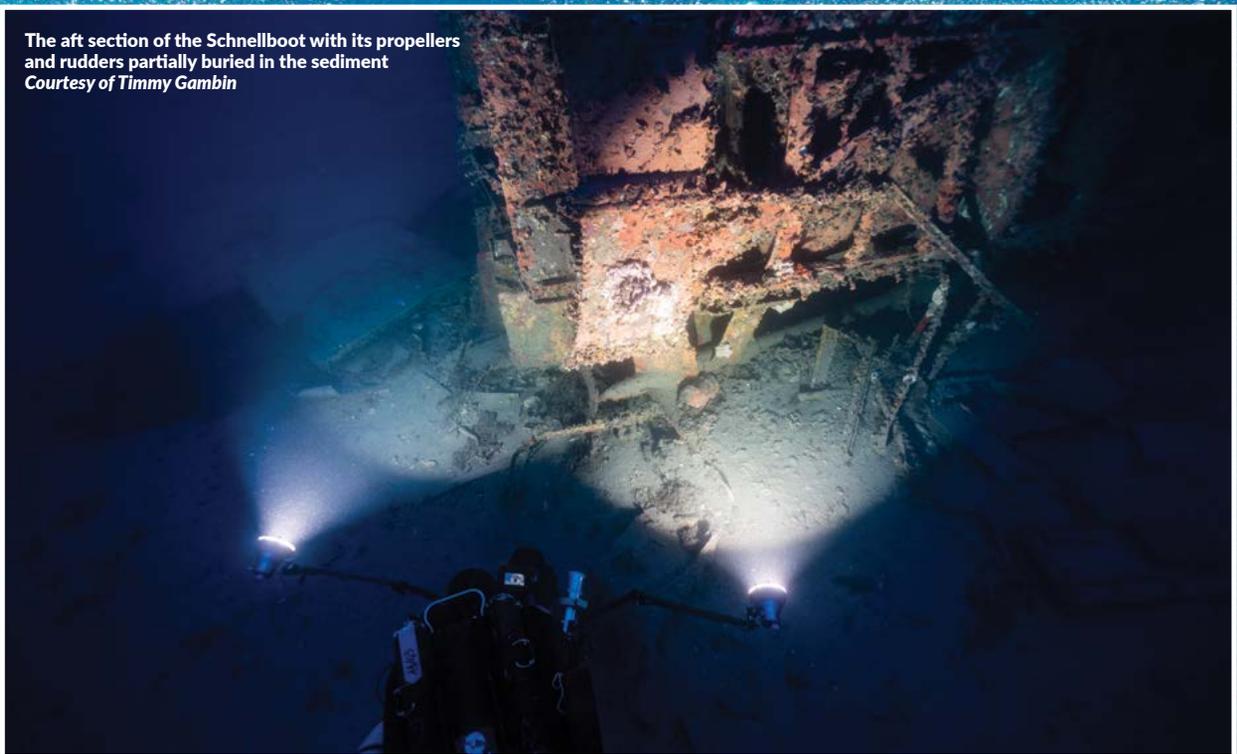


Model of the almost intact wreckage of the Ju88  
Courtesy of Timmy Gambin



The aft section of the Schnellboot with its propellers and rudders partially buried in the sediment  
Courtesy of Timmy Gambin



# Underwater History becomes Virtual

Author: Martina Borg

*Imagine trying to solve a puzzle while you're still looking for half the pieces. Now, combine that with limited oxygen and the pressure of the sea upon you. Underwater archaeologists go through that with every discovery they make. Their research takes them to incredible depths to analyse sunken historical artefacts from shipwrecks to planes. THINK takes a look at how local researchers utilise interdisciplinary approaches to bring together scientific machinery, technological developments, and national entities to unlock Malta's history.*

The Mediterranean Sea is one of the world's biggest repositories of human history. Flanked by some of the most powerful and all-encompassing civilisations, this sea is filled with silent treasures waiting to be discovered. Malta is right at the centre of this culturally and historically rich region. Its seabed houses some exceptional fragments of bygone eras.

Professor Timmy Gambin (University of Malta [UM]) has made delving under the surface his life's mission. THINK caught up with the researcher just ahead of a scheduled dive with his team.

## FROM PHOENICIA TO THE COLD WAR

Starting with a BA in History at the University of Malta, Gambin developed a deep interest in maritime archaeology, going on to attain an MA in the subject, and he hasn't looked back since. Throughout his career, Gambin has combined his passion for history and the latest technological innovations to uncover some of the most important archaeological sites on Malta's seabed. Indeed, the professor has a number of significant and notable discoveries and excavations under his belt. These include over 50 submerged aircraft crash sites dating from various historical periods, including World War II and the Cold War.

But we couldn't discuss Gambin's research without mentioning what is perhaps the most notable project in his portfolio: the Phoenician Shipwreck. This ongoing excavation, which is situated off Xlendi in Gozo, is not only the oldest known shipwreck in the central Mediterranean, but also boasts being the first ever archaeological excavation by divers beyond 100m.

The site was first discovered in 2007 during an offshore mapping survey directed by the UM in collaboration with Heritage Malta and the Superintendence of Cultural Heritage. The Phoenician Shipwreck comprises an intact mixed cargo dating back to around the 7th Century BC, and it provides a window into the economic trade networks of the region during the Archaic Period. Besides its historic significance, Gambin explains that the site has also presented various challenges in terms of access and research methodologies.

'We can only spend fifteen minutes on the site during every dive,' he says, adding that two boats, two boat men, two shallow support divers, and multiple technical divers are required for every expedition. He adds that the research has been split into various phases, and that there is still much to uncover. Prior to the start of the excavation, the team also utilised specific equipment such as a Sub Bottom Profiler to analyse what lay below the visible sand layers. ▶



**Phoenician Shipwreck, Xlendi Bay Gozo**  
Courtesy of Timmy Gambin

'An international team was formed in 2014 when we started using manned submersibles to obtain photographs and ultimately create a 3D model of the site, as well as recover some artefacts for further study.'

Gambin explains that the Phoenician Shipwreck was found during another project he conducts – that of surveying the seabed in Maltese territorial waters. 'Our aim is to ultimately create an archaeological map of the important sites on our seabed in order to inform decisions about the protection and management of Malta's underwater heritage.'

This mapping project started back in 2005. Over the past two years it has made use of an Autonomous Underwater Vehicle (AUV), which was provided through the SINTEGRAM Project and which carries a high-

resolution side-scan sonar to map the seabed. Such innovative technology and subsequent dives require further funding and intense logistical planning.

### ARCHAEOLOGY FOR ALL

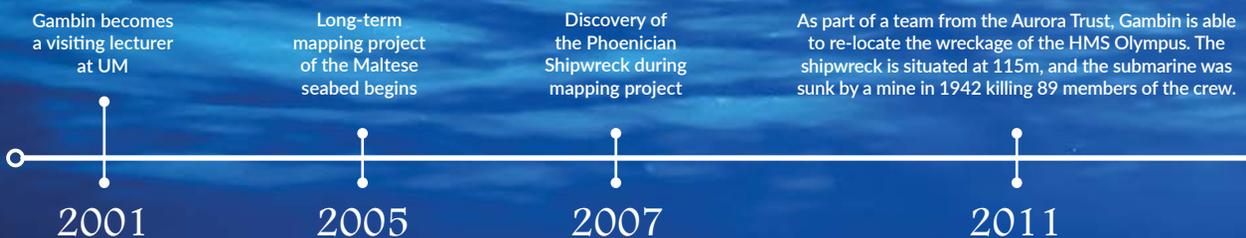
Gambin's latest project is a happy offshoot of this years-long endeavour, which could potentially spur even more research. 'The Virtual Museum' – a recently launched website funded by the Malta Tourism Authority – presents important underwater archaeological sites around the Maltese seabed. Access is free to all, and this groundbreaking virtual museum is run in collaboration with Heritage Malta.

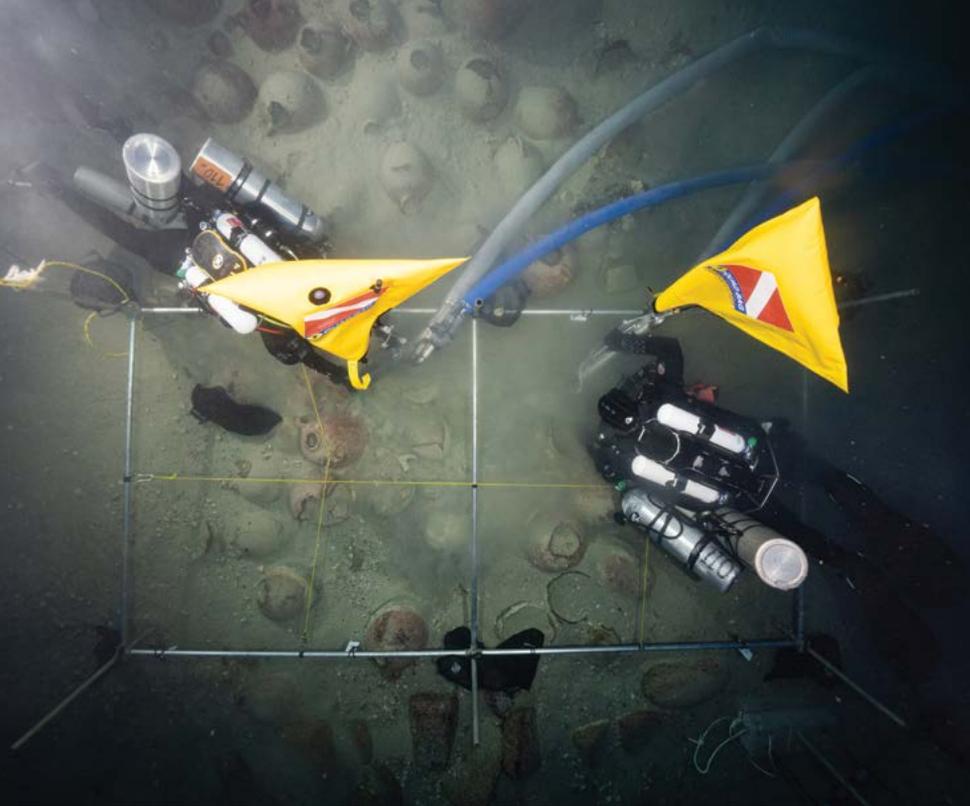
'I think research and exploring more sites will make us better teachers and keep lectures fresh for students, but I hope that this project reaches the general public, to whom this heritage

also belongs,' he says, explaining the rationale behind the idea.

'The way I see it, since the UM is funded by the state, we need to make sure that the public also reaps the benefits of our research. Furthermore, the globally available museum will garner attention and inspire people with an interest in history, science, and diving to possibly travel to the island.'

Gambin adds that showing citizens what is beneath our seas can also increase appreciation and respect towards this invaluable heritage, encouraging them to actively protect it. He explains that there aren't many virtual museums that boast as much detail and user-friendliness. He goes on to take me on a tour of the impressive virtual museum. Every page takes visitors to a 3D model of a wreck. Hovering around the screen also offers





Prof. Timmy Gambin

information about the specific site, detailed sections of the wreckage that have been through conservation processes, as well as what the wreckage may have looked like in its previous life.

'Every archaeological site already on the website required a series of dives where we could survey and photograph the wreck. These photos would then allow us to create the 3D and virtual reality models you see on the website.'

He adds that the team would sometimes need multiple dives to obtain full coverage of the sites, and that dive teams for this project were composed of one cameraperson, a light operator, and a safety diver.

Launched on the 30th June, the website already hosts 10 different sites, and the plan is to have about 20 more by the end of 2021. Gambin adds that he hopes to revisit some sites

he has already explored to be able to present them to the public with the infinitely more sophisticated technology available to him now. A key site lies in Mellieħa Bay: a Roman shipwreck first discovered in the 1960s by noted marine archaeologist Honor Frost. In 2013 and 2014 the UM organised field schools to further examine the site.

'We hope to include such excavations in the museum,' he says, looking to the future. 'This museum was a result of enthusiasm, vision, and five years of plans and collaborations with different local and foreign experts including website creators, software specialists for the 3D models, and various other people to ensure data quality on the website.'

It may be hard to understand how someone can maintain so much passion and determination for a project and

yet be willing to make it accessible to everyone for free, but Gambin explains it in very simple terms. 'The more we publicise how rich our underwater heritage is, the more the public will be aware of why we need to preserve these sites,' he shrugs, as some of his team pop into his office to ask for further details about their approaching dive.

As a researcher who is always pushing the boundaries and delving deeper, Gambin has already had an impressive career. He humbly brushes off any awe though, insisting that he usually comes up with fresh ideas and then sets about the practicalities with his team later on in the process. This surely won't be the last of his projects we hear about, and he is convinced that with the right amount of support, dedicated researchers like himself can continue to make history accessible to all. **T**

Gambin becomes a senior lecturer at UM

2012

Gambin organises 75th anniversary commemorations, including a dive to place a memorial plaque on the site of the HMS Olympus

2017

The UM team led by Gambin conducts the first archaeological excavation by divers beyond 100m

2018

Virtual Museum - Underwater Malta is launched to share Malta & Gozo's underwater cultural heritage with citizens

2020