

Be part of University of Malta's future



THE UNIVERSITY OF MALTA  
RESEARCH, INNOVATION  
& DEVELOPMENT TRUST

The University of Malta continues to play an important public function so that the social and economic needs of our country are catered for to the best of its ability. While acknowledging the role played for hundreds of years as the country's Alma Mater, the place from where so many thousands graduated, we also accept that no university can be worthy of its status unless it invests significantly in research and innovation. Despite the recent substantial increase in investment to build a local research milieu, Malta still lags behind European Union counterparts when it comes to investment in Research and Innovation as a percentage of GDP.

Today, around 80% of the University's income comes from a direct government subvention, and we will continue to work towards a higher degree of financial autonomy. Sustainable research requires a steady flow of revenue which simply cannot be expected to come just from government funds. The University of Malta has in the past few years benefitted from EU research funds and other programmes intended to finance research and innovation, and will continue to explore funding avenues, both local and international.

In April 2011, the University of Malta, in collaboration with the Government of Malta set up the Research, Innovation and Development Trust (RIDT). The RIDT is intended to be the instrument which will raise the much-needed funds for our research. We are very pleased to announce that in its short life, the RIDT has already managed to attract an encouraging number of supporters who have made a donation towards its mission. For this we thank them publicly and assure them that their donations will be put to best use, for the advancement of knowledge and for the benefit of the community.



Each donation, large or small, ensures that we can sustain the research activity that the University of Malta has embarked on. For this I would like to thank you, because only with such help can the University of Malta continue to maintain its role as a higher education institution and as a centre for research and innovation.

Professor Juanito Camilleri – Rector



**WHAT WE CAN ACHIEVE TOGETHER...** RIDT is striving to further the advancement of research, innovation and development in all areas of study, knowledge and activity in Malta.

*The funds which we raise shall be used to:*

- ▶ Finance research and innovation projects of significant value to society and the economy as well as to enhance knowledge and know-how;
- ▶ Support conferences, seminars, symposia, workshops and similar fora, and other appropriate activities for the development and dissemination of knowledge and skills;
- ▶ Publish the result of research, proceedings of conferences, scholarly journals, and miscellaneous studies in the appropriate forum;
- ▶ Broker and promote academic co-operation and collaborative research with other academic institutions, with industry and with civil society at large, both locally as well as internationally;
- ▶ Strengthen the research infrastructure, equipment and resources required for leading edge research and innovation.

*If you share our objectives, please consider what you or your organisation can do to help us to achieve them...*

- ▶ You can donate financially through the RIDT website. There you can choose whether your contribution goes to the current priorities of the RIDT, or to a faculty, institute or centre of your choice.
- ▶ You can get in touch with the Trust via telephone or e-mail address shown below.
- ▶ Has the University of Malta helped you arrive at where you are today? Why not consider leaving a contribution to the RIDT in your will? Talk to us for more details.
- ▶ The RIDT is grateful for all contributions received, whether they are in cash or in kind.

ridt.org.mt



University of Malta  
Università ta' Malta

RESEARCH, INNOVATION & DEVELOPMENT TRUST  
University of Malta Valletta Campus  
St Paul's Street, Valletta, Malta.

Tel: 2340 8201 info@ridt.org.mt



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# Developing a Legacy of Innovation



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# A Legacy of Innovation...

Tracing its origins back to 1592, the University of Malta has a long and proud legacy, having earned an unrivalled reputation for excellence in a number of academic fields across the arts, sciences and humanities.

As with any seat of learning, research and innovation are the fulcrum around which the impetus of this vital institution revolves.

Case Studies of Excellence Research at the University of Malta is carried out in many different areas, by dedicated teams in different Faculties and Departments. Research projects such as the ones illustrated here, which are a vital part of the University's role, all require adequate funding.



**REGULATION AND CONTROL OF HAEMOGLOBIN SWITCHING**  
The discovery of a new DNA mutation could unlock the cure for blood disorders like thalassaemia, making the future for curing this blood disorder look much brighter. A Maltese group of researchers, led by Prof. Alex Felice, together with Dr Joseph Borg, Dr Godfrey Grech, Prof. Christian Scerri and others has uncovered an important underlying mechanism to genetically switch on foetal haemoglobin.



**NEW STENT DESIGNS BASED ON HONEYCOMB GEOMETRIES**  
Stenting is one approach for treating narrowed blood vessels – stents save millions of lives every year. However, current stents sometimes become detached from the vessel, causing threat to patients. This fact encouraged local researchers Prof. Joseph Grima, Dr Daphne Attard, Dr Aaron Casha and Dr Ruben Gatt to come up with a new stent design that solves this problem.



#### MONITORING OF METEO-MARINE SURFACE CONDITIONS

This project, a partnership between Maltese and Sicilian entities, will set up a permanent HF radar observing system, capable of recording surface currents in the Malta Channel. This data also targets to provide accurate information about threats from oil spills. The Physical Oceanography Unit at the University of Malta, led by Prof. Aldo Drago are confident that the project will save money, lives and will provide security in the region.



#### ALERTING PILOTS TO AVOID COLLISIONS

With over 50 million flights operating annually worldwide, it is not surprising that an average of 2 runway incursions occur daily in the United States. Since 2005, the University of Malta has been conducting research into the development of an effective method that alerts pilots to ensure collisions are effectively avoided. The system developed by the University of Malta was produced in continuous consultation with industry, including Airbus, Thales, BAE Systems, NLR and Cranfield University.

## RIDT~developing the Legacy

In keeping with its strategic vision, the University endeavours to fulfil its true vocation as a '3rd generation university'; not only providing a world-class centre of tertiary education but also facilitating high-calibre research, the results of which may be opened up to commercial use and industrial application while contributing to socio-economic development. In this way, the whole of society stands to gain.

It is therefore vital for the University and for Malta itself, not only that such research is sustained, but that it is sustainable.

The Research Innovation and Development Trust (RIDT) was established as an integral component of Malta's policy to bolster investment in research and development on a national level. Our intention is to attract the necessary funds, be it from donations from individuals as well as commitments by, and collaborations with, corporate bodies. Whatever the source, whatever the amount, such noble and far-sighted gestures will enable a crucially important legacy to be upheld. Donations, whether in cash or in kind, will be exempt from being declared as taxable income.

A Board of Trustees, appointed in terms of a Trust Deed signed on the 18th April 2011, governs all aspects of RIDT's activity and is also responsible to ensure that – in a clearly accountable and independent manner – all contributions raised are directed solely to further the Trust's mission of funding research and innovation at the University of Malta.



## Peer-reviewed Research of International calibre

The University of Malta is an internationally-recognised centre of excellence.

Although it has been welcoming a growing number of students following an increasing number of degree programmes, it has not lost sight of its research mission, and managed to develop a healthy environment for personal research.

Ultimately, the main measure of success in this regard is the amount and quality of work authored by the University's academics which is published in peer-reviewed publications.

In order to valorise the academic effort spent on research, the University is in the process of introducing an inventory of publications which will be updated continuously.

In this way, the University academics' direct contribution to industry, civil society, and the economy and community at large will also be valorised and acknowledged.



#### UNDERWATER ROBOTS MAPPING ARCHAEOLOGICAL REMAINS AT TAS-SILĠ

Robots have recently mapped the underground water cisterns at the Neolithic temple in Tas-Silġ. The temple is around 4000 years old with a rich history till the Punic period (500BC). A team of American computer engineers from Princeton and Calpoly are currently collaborating with Maltese archaeologists, Timmy Gambin and Keith Buhagiar, to explore Malta's wells, cisterns and water galleries. The number of people working on this project and the breadth of disciplines is remarkable. Next year, the American team plan to work more closely with Prof. Ing. Simon Fabri, a roboticist at the University of Malta.



#### ONGOING RESEARCH ON THE MALTESE DICTIONARY

A team of four academics from the University of Malta is updating the dictionary produced by Prof. Gużè Aquilina between 1987 and 1999, in accordance with the two recent orthographic reforms. The aim is to have an online dictionary of Maltese that reaches the same high standards as the dictionaries of other languages. The updated dictionary will not only serve to show the richness of the Maltese language but, being a powerful normative tool, it will also give a clear direction to all those who use the Maltese language in their work or in their writing. The project is spearheaded by the National Council for the Maltese Language and supported by Midsea Books Ltd.