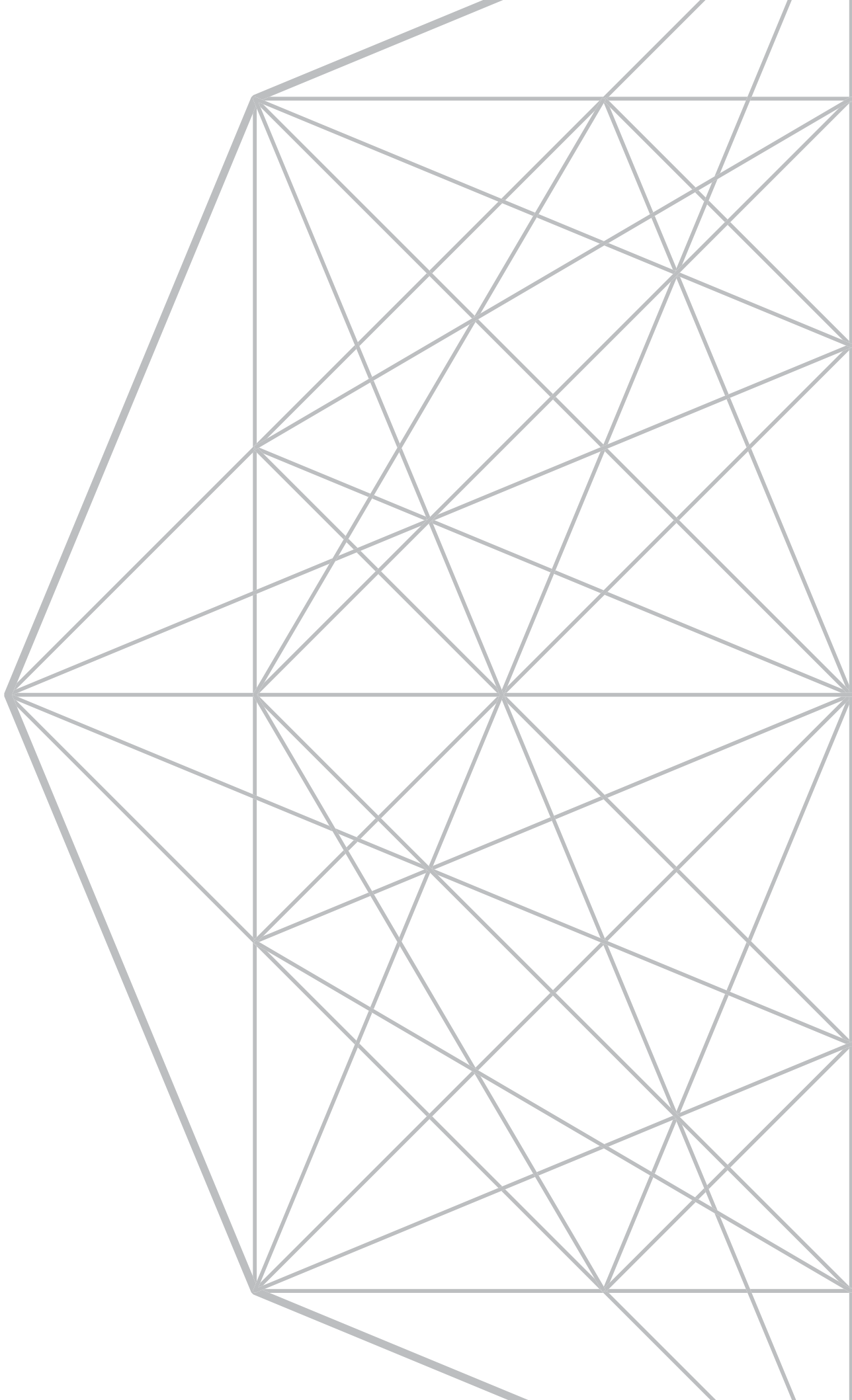
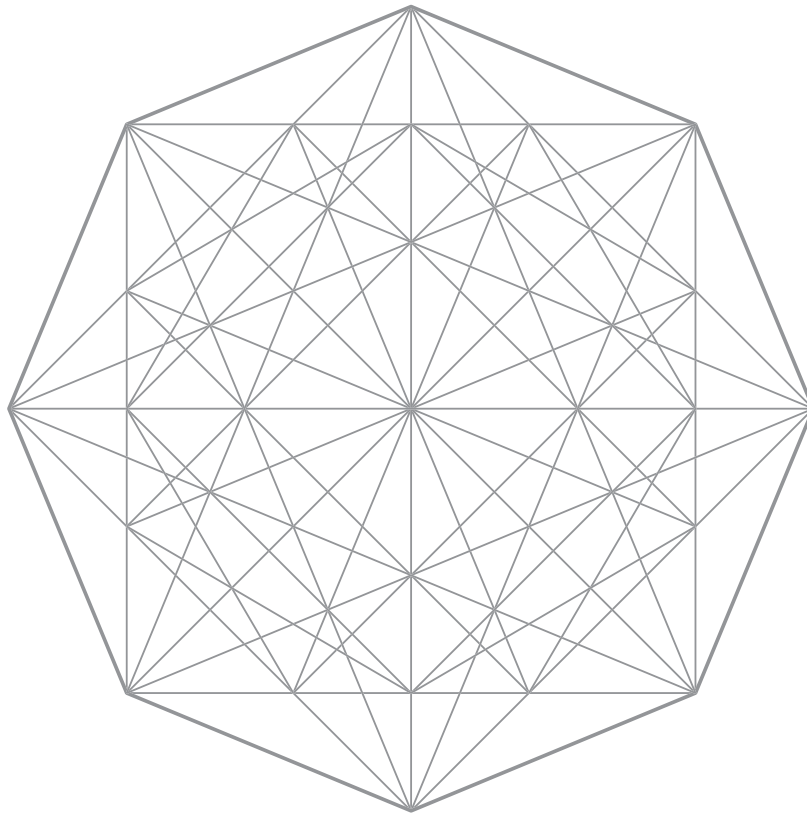


LIVING THE VISION





Over the last 10 years, a strategic vision has vaulted the University of Malta onto the world stage. Multimillion capital investments have facilitated the construction of advanced buildings and cutting-edge equipment to support research that turned the Institution into a third generation university. Along with a big research boost, new initiatives have transformed the infrastructure helping to acquire the funds needed to start turning university research ideas into innovation and business. The fundamental recasting of the Academic Collective Agreement, and restructuring of administration, has helped enhance academic and student work. Being a world-standing university has supported local socio-economic growth with a quadrupling of evening courses for adult learning, construction of a sound research infrastructure, festivals to engage the public, and a research trust fund that has seen new collaboration with industry, private individuals, and NGOs. We have grown. This is how.

EDITORIAL

Edward Duca & Patricia Camilleri

DESIGN & CREATIVE DIRECTION

Jean Claude Vancell

COPYEDITING

Veronica Stivala

PROOF READING

Patricia Camilleri, Daphne Pia Deguara

PRINTING

Gutenberg Press, Malta

VIDEO

James Moffett, Graziella Scicluna, Monica Farrugia

CONTRIBUTORS

WRITERS

Cassi Camilleri
Patricia Camilleri
John Cordina
Dr Edward Duca
Lars Lorenz
Natasha Padfield
Veronica Stivala

Prof. Ing. Kenneth P.
Camilleri
Patricia Camilleri
Prof. Sandro Caruana
Dr Ing. Glenn Cassar
Prof. Maureen Cole
Prof. Vicki Ann Cremona
Dr JosAnn Cutajar
Dr Jean-Paul De Lucca
Dr Edward Duca
Kevin Ellul

PHOTOGRAPHY

Elisa von Brockdorff
Mark Casha
Dr Edward Duca
John Grech
James Moffett
Jean Claude Vancell
iCreatemotionStudio.com
Tufigno Photo & Video
Services
V-Squared Media &
Entertainment

Prof. Raymond Ellul
Dr Hector Fenech
Jacqueline Fenech
Karl Grech
Veronica Grech
Prof. Joseph N. Grima
Lewis Holland
Prof. Andrew Jones
Wilfred Kenely
Kunsill Studenti
Universitarji (KSU)
Dr Jackson Levi Said
Andy Linnas

INFOGRAPHICS

Lars Lorenz

Dr Alessio Magro
Carmen Mangion
Dr Maria Meilak
Prof. Matthew Montebello
Prof. Luciano Mulé Stagno

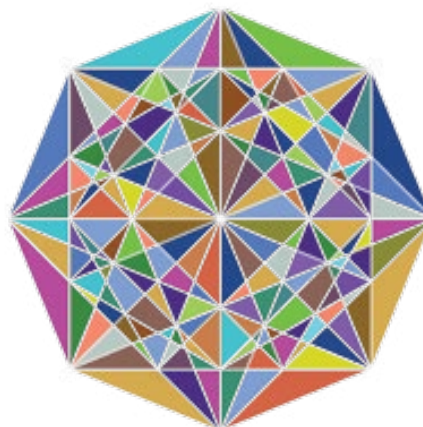
SPECIAL THANKS

Prof. Juanito Camilleri,
Rector

Prof. Richard Muscat
Martina Pace
Dr Ing. Andrew Sammut
Prof. Charles V. Sammut
Annalisa Schembri
Bernard Schembri
Prof. Russell Smith
Perit Christopher Spiteri
Robert Sultana

Robert Abdilla
Stephanie Abood
Stefania Agius Fabri
Prof. Kevin Aquilina
Alexandra Attard
Prof. Maria Attard
Prof. Nikolai Attard
Joe Azzopardi
Keith M. Azzopardi
Tyron Baron
Christian Bonnici
Colin Borg
Edward Borg
Prof. Noellie Brockdorff
Prof. Ing. Victor Buttigieg
Prof. Ernest Cachia
Prof. Gordon Calleja

Prof. Alex Torpiano
Jean Claude Vancell
Elisa Vella
Prof. Angela Xuereb
Prof. Ing. David Zammit
Mangion
Marvin Zammit
Prof. Kristian Zarb Adami



LIVING THE VISION

ISBN 978-99957-0-982-2

Copyright © University of Malta, 2016

The right of the University of Malta to be identified as Publisher of this work
has been asserted in accordance with the Copyright Act, 2001.

University of Malta, Msida, Malta
Tel: (356) 2340 2340
Fax: (356) 2340 2342
www.um.edu.mt

All rights reserved. Except for the quotation of short passages for the purpose of
research and review, no part of this publication may be reproduced, stored in a
retrieval system, or transmitted in any form or by any means, electronic, mechanical,
photocopying, recording or otherwise, without the prior permission of the publisher.

The publisher has used its best endeavours to ensure that the URLs for external
websites referred to in this magazine are correct and active at the time of going to
press. However the publisher has no responsibility for the websites and can make no
guarantee that a site will remain live or that the content is or will remain appropriate.

Every effort has been made to trace all copyright holders, but if any
have been inadvertently overlooked, the publishers will be pleased to
include any necessary credits in any subsequent issues.

LIVING THE VISION

is a bookazine by

THINK

IDEAS · MALTA · RESEARCH · PEOPLE · UNIVERSITY



UNIVERSITY OF MALTA
L-Università ta' Malta

CONTENTS

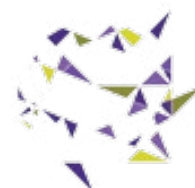
PEOPLE & PERSONALITIES

The power to empower	8
People & professionals: the rise of University's finest assets	14
Keeping a small town running smoothly	20
My alma mater	27
How to make an engineer	34



RESEARCH & KNOWLEDGE

A rags to riches story	38
Think research, think Malta	44
Collaboration matters	50



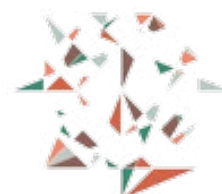
ENTREPRENEURSHIP & INNOVATION

Turning university ideas into business	54
Enterprising entrepreneurs	60
Printing magic	64
The art of gaming	65
A healthy microwave	66



BUILDINGS & SPACES

A vision in stone	70
University reborn	79
Campus 3.0	83
A time for technology	86



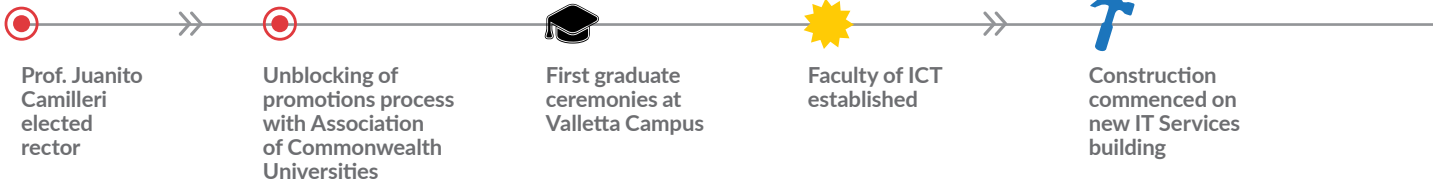
PUBLIC ENGAGEMENT & OUTREACH

Engage, engage, engage	90
Minding the University's business	94
Bridging gaps	96
A bite-sized education	100
A lighthouse reinvented	102
Intersecting boundaries	104



ACHIEVEMENTS & MILESTONES

2006

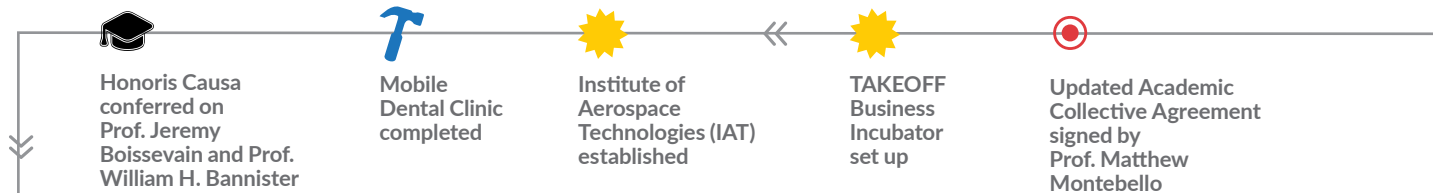
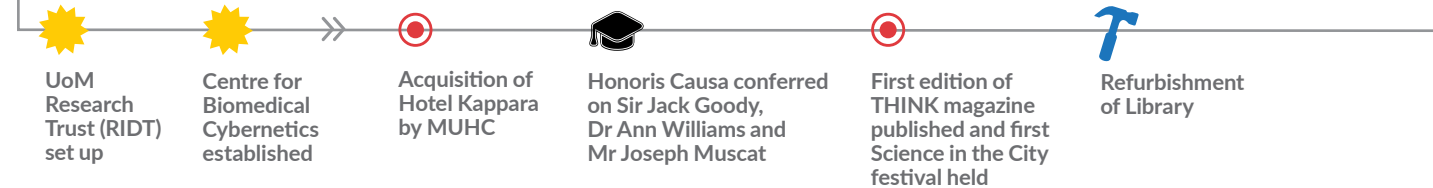


2011

2010



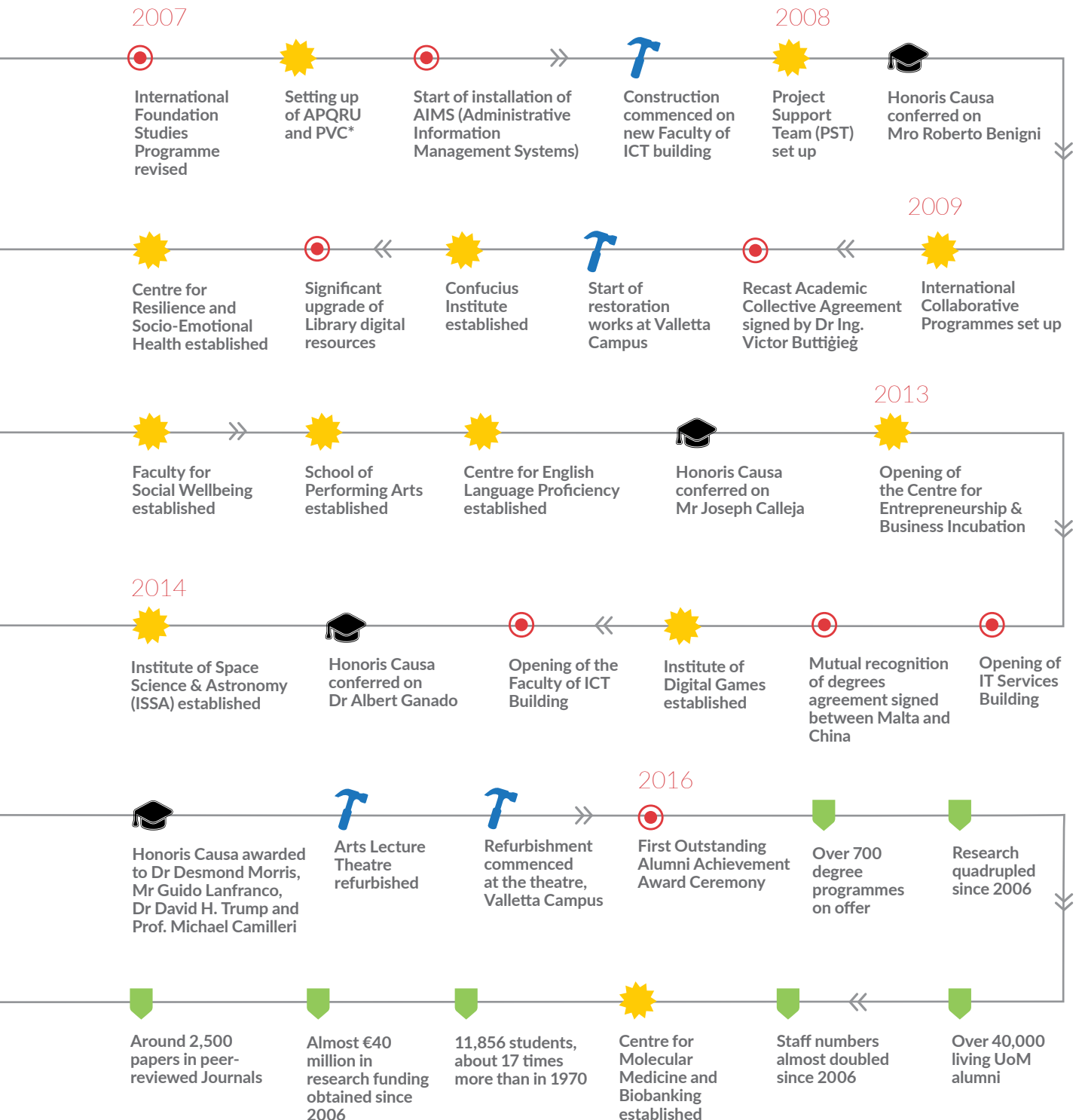
2012



2015



2006 - 2016



*APQRU: Academic Programmes Quality & Resources Unit / PVC: Programme Validation Committee



**PEOPLE &
PERSONALITIES**

THE POWER TO EMPOWER

Outgoing rector **Prof. Juanito Camilleri** has transformed the University of Malta both in terms of its infrastructure as well as its mindset. Despite the great strides it has made in the past ten years, he believes the revolution is still to come. This change needs the political class to give it the autonomy it deserves. He speaks frankly to **Dr Edward Duca**.





deas are cheap. But, as the saying goes, execution is key. When trying to manage and steer a university full of academics brimming with their own ideas, the implementation of any idea needs incredible strategic manoeuvring. Prof. Juanito Camilleri (University of Malta [UoM] rector from 2006 till 2016) appears to have succeeded in not only coming up with good ideas, but in deftly implementing them in order to lead the UoM through major infrastructure transformations and changes in mentality, resulting in an upgrade of both its outer layer and inner core. Yet Camilleri is skeptical of this analogy, and insists that the revolution is still to come.

He identifies the first collective agreement for academics (see pg 14) signed under his watch as a fundamental game changer. The agreement, he recalls, made it very clear that the University's

aim was to become a modern third generation university based on three pillars: teaching, research, and outreach. When Camilleri was elected rector in 2006, some had criticised the UoM as being simply a glorified secondary school.

During the last decade, teaching programmes have been rationalised and the day and evening course portfolio expanded. The UoM now has over 700 degree programmes. 'We worked very hard to build the notion of quality assurance and develop the systems to support it.' The University invested a lot in blended learning, which fuses traditional and online education (using Moodle to implement a virtual learning environment). The University also invested in the Library's digital resources and built the IT services centre as the underlying eLearning infrastructure to support a novel form of education (see pg 26). ▶

Since 2006 research has skyrocketed, with publications quadrupling in the space of ten years (see pg 44). ‘We have shown that what we thought was unachievable in the past is achievable even for a small country like Malta,’ asserts Camilleri. He underlies that ‘yes, research is important for the country; yes, spawning companies from university intellectual property is possible, as is having a committed academic and administrative staff focused on creating the jobs of tomorrow. [...] We have shown that things have become better and must become even better.’

A flourishing university transforms a country. The UoM’s outreach projects have been greatly expanded (see pg 98). The past few years have seen NGOs for the first time in Malta fund research through the University’s Research Trust (RIDT), while the University boasts a slick research magazine called *Think* to tell its own stories. UoM has also reached out into local communities having invested in the Cottonera Resource Centre, targeting an area of Malta with the fewest graduates.

AN EMPOWERED UNIVERSITY

Camilleri’s most significant achievement is probably ‘the change in mentality and mindset’ that he induced. ‘A change in the semantics of power, where power is not the power to chastise, nor the power to clip wings, but rather where power is the ability to empower and give space for others to grow. [...] I think this is why the [UoM’s] budget and profile have grown.’ The institution’s income has

doubled and doubled again in ten years and ‘the results speak for themselves.’

Camilleri does not identify the exponential increase as his doing alone, but rather the people around him. ‘I think many [members of staff] started to believe they could achieve more and got down to achieving more. When you see the aggregate of all that achievement, that is really the game changer—it is all about creating the right environment.’

The ‘can do’ culture is ‘still in its formative stages.’ Camilleri points out how the University is ‘creating enabling environments where some of [its] very best brains are choosing to stay [t]here because they feel that although there might be better facilities abroad they can still have Malta as their base and grow academically.’

ENGINE UPGRADE

A thorn in the UoM’s side is that it cannot plan far ahead. The reason is that its finances are dictated by a

We have shown that what we thought was unachievable in the past is achievable even for a small country like Malta.

○ **Prof. Juanito Camilleri**

government-allocated annual budget. It can only augment its finances through EU funding, industry collaborations, postgraduate programmes, and non-European students—amounting to around 20% of the total budget sustained over the past years. This makes long-term strategies and plans difficult since budgets are unpredictable. Camilleri admits that ‘[the government] has systematically increased the University’s budget so that the progress we have registered was possible.’ He values the contributions of all political parties in government, and gratefully acknowledges the sustained increase in funding during his tenure. Yet, he stresses that ‘the University must outgrow what any government can or cannot afford [...]’ going as far as to say that ‘we need to find [a new] financial model. We need to find some special purpose vehicle to give the University financial autonomy. This freedom should allow it to generate substantial funds for research and give it the legal stature necessary to forge its own partnerships with business and civil society. The University must invest in spin-out companies to build its own future.’

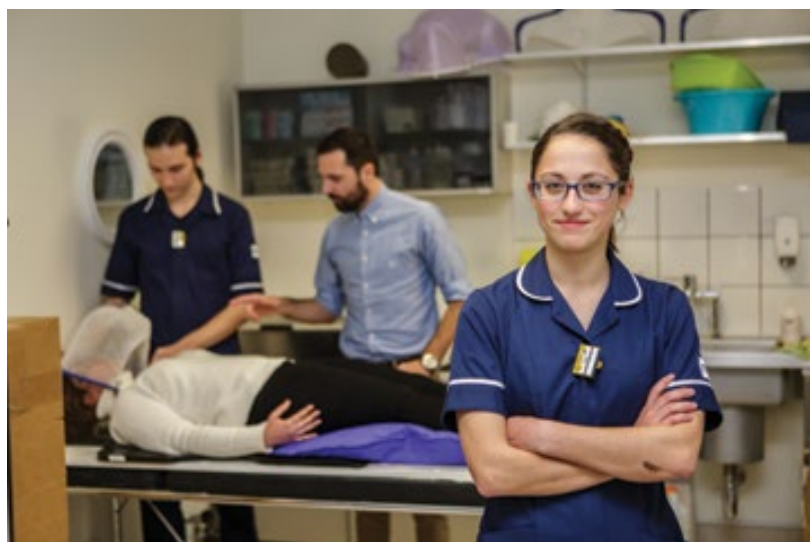
This new financial model needs to be realistic. It needs to ‘correlate desired outputs to the investment input required.’ Every student costs the UoM money depending on the course they undertake. Every student must be supported by an acceptable standard of research and administrative infrastructure.

Camilleri believes that what is holding the UoM back is ‘that the political class have yet to be convinced of University’s dire need

for the necessary financial and administrative autonomy.' Camilleri does not see the current picture as negative, but as a work in progress. The results achieved are not the revolution required for UoM to enter the next league. 'For the University to continue to operate as a cornerstone of our economy and society we need a quantum leap forward.'

Looking to the future, a new law is being drafted: 'The University of Malta Act'. Camilleri hopes that 'we will get this one right.' With any luck, the law will recreate the UoM as a new 'public equivalent body,' a quasi-public entity. 'The University of Malta would be empowered by an act of law. Within it, there would be all the necessary cross checks and balances for UoM to be transparent and accountable, while governing itself without a financial or administrative leash.'

The government's current funding mechanism for the UoM needs to change. 'It should reflect the underlying cost of education of the student cohort in hand, bearing in mind that the cost of training doctors, lawyers, engineers, teachers, lab-based scientists, and others is intrinsically different,' maintains Camilleri. A formula-funding mechanism should be agreed to, the University has already conducted a detailed analysis of the cost-base of each type of diploma/degree programme it offers. Therefore the cost of each student, on a programme by programme basis is known, and the subvention required to adequately fund the education of a student body can be determined quite accurately.' He believes that, 'the relationship between government and the University of Malta needs



Photos by www.iCreatemotionStudio.com

to evolve into a client to service-provider relationship with government covering the true costs for the services it receives,' a powerful statement.

Camilleri is disappointed that this new financial model, and legal and operational framework have not yet been implemented. 'I have not managed to convince either administration of the fundamental change required. If you want the University to develop a different, improved *persona* then we need to change its DNA, we need a new engine model!' However, these changes will bring more responsibility. 'There

will be more bureaucracy, not less, even if it is smart bureaucracy.'

That bureaucracy needs to translate into accountability. Currently, 'it is practically impossible to fire anybody because of an unwieldy process with layers upon layers where inefficiency and mediocrity can hide.' His biggest dismay it seems are a handful of academics who 'cause 90% of the issues and bad feelings. [...] Sometimes they are right, sometimes they are not, but once issues are duly debated and decided, people ought to put personal feuds aside and work as a team to move on. This very small ▶

minority tend to see things their way or “no way”! Again this lack of teamwork is frustrating.’ At times certain academics follow ‘their own agendas and do not always act in the University’s best interests.’

A UNIVERSITY FOR MALTA

The University and the Maltese Islands are inextricably intertwined, so much so that Camilleri refers to the institution as ‘the beating heart of the islands.’ Because of this, then, the UoM must adopt an approach that infuses it within society.

For Camilleri the UoM is paramount to the development of Malta’s identity. ‘The Maltese identity,’ he believes, is not only drawn from its past but refined by current ‘thought processes and sensitivities, that nurture an understanding, reflection, and introspection which help build a contemporary Maltese psyche.’

The corollary to this, is that intellectual thought should be cultivated. Camilleri notes however, that ‘there isn’t one perspective that needs to dominate others, but that it is the whole process of debate, the level of intellectual engagement, the research that takes place, the minds that are developed, that are important.’ These, he asserts, ‘are the crucial ingredients that will make Malta sustainable.’ They will define what it means to be Maltese: ‘The intellectual activity at University should be driving and feeding our democracy.’

Camilleri gives tremendous value to the University, noting how it ‘has never been as important to Malta as it is today.’ As Malta continues to diversify its economy and build economic resilience, the ideas, values, and

business emerging from the UoM are needed to drive the country forward.

But there is more to be done. ‘There needs to be another fundamental game change that could not have happened ten years ago,’ he expounds. I think we have proven that this can be a world-class university. [...] Had it not taken so long to get this far, I would have been very happy to lead the next phase [...] but it’s a good thing that a new administration is coming in to actually pick up from this point and place this particular debate on the agenda.’ That great debate is the UoM’s financial model, and its legal and operational framework.

A VISION, A HOPE

Over the past decade campus life has become much richer. The library is full of students all year round, while the canteen becomes incredibly noisy over lunch. Student organisations have flourished, with students gaining credits for work outside of their course through the DegreePlus programme (informal courses from journalism to badminton are available). But Camilleri demands more. He envisages a university with a ‘bohemian style of education.’ Teach the subject but allow students to ‘wander, perhaps aimlessly, in what it is that makes



Rector Prof. Juanito Camilleri together with the President of Council, Dr Michael Sciriha, Pro-Rectors Prof. Alfred Vella, Prof. Mary Anne Lauri, Prof. Joe Friggieri and Prof. Richard Muscat, and the College of Deans.

Photo by Tufigno Photo & Video Services

I think we have proven that this can be a world-class university. [...] Perhaps it’s a good thing that a new administration is coming in to [...] place this particular debate on the agenda.



Photo by Elisa von Brockdorff

Faculty of Arts Library.

them, what it is that they want to be in this society of ours.'

He also believes that University life needs to be vibrant. The UoM should have 'a continuously open library, with recreational facilities open 24/7.' These aspirations need planning and financing. The necessary infrastructure has been penciled into a master plan (see pg 82). This 'plan could take another 20 years to achieve but at least there is a greater vision we can strive towards.' The strategy goes beyond Camilleri or his rectorship. It seeks to create 'performance spaces and laboratories: a research and creative milieu that nurtures minds and hearts,' while

building 'communities of scholarship where the delivery of what one needs to know is done in the most enjoyable way, with a community of people acting as role models. Ultimately, this melting pot will translate into what it means to be Maltese in this globalised ever-changing world.'

With the staggering technological developments underway, a university should help answer the question 'What does it mean to be human?' This is a question that needs interdisciplinary work between arts, sciences, and every field in between. 'We need postdocs who think outside the box to create clusters of excellence or to project raw talent.' A post-doctorate centre,

currently being constructed, will help nurture this. 'Start-ups and company spinoffs are very important for a university.' The Knowledge Transfer Office and Takeoff Business Incubator are trying to create this movement. The university experience needs to become 'more cognitive and more meaningful to create learning experiences that one cannot gain anywhere else but on a vibrant real-world campus.'

The lofty heights Camilleri sees need a 'change in our engine model.' Despite a long list of successes, he sees that a lot more work is needed. More so, a revolution is needed that would change the very essence of both the University and Malta—a practical dream. ▀



People & professionals

The rise of University's finest assets

An institution comprises a group of individuals who conglomerate to work towards a common goal. The University of Malta has come a long way.

***Cassi Camilleri** speaks to past University of Malta Academic Staff Association presidents **Prof. Ing. Victor Buttigieg** and **Prof. Matthew Montebello** as well as support staff representative on Council **Stephanie Abood**.*



Photo by www.iCreatemationStudio.com

The University of Malta (UoM) is a complex organisation, home to 14 faculties, 114 departments, and countless institutes and centres.

However, while its makeup may be unique, it still abides by the old adage that an organisation is only as good as its people.

Working conditions at the UoM, for both academics and support staff, have been the subject of many colourful debates over the last twenty years, fuelled by blazing headlines that have appalled readers. Prof. Victor Buttigieg (President of University of Malta Academic Staff Association (UMASA) between 2001 and 2009) recalls his earlier years at the UoM when lecturers needed to fork out their own money to buy the supplies they needed to teach their students.

And while some might shrug at that notion, it must be pointed out that this came around 1994 when the institution was in financial difficulties.

That particular low point in the history of the UoM is now thankfully a long way off in its rear

view mirror. Since then, positive changes have been made for the benefit of academic and support staff. Two game-changing collective agreements have been signed by UMASA Presidents Buttigieg and Prof. Matthew Montebello, and pushed forward by the outgoing rector, Prof. Juanito Camilleri. One agreement provided academics with sorely-needed salary rises and established the necessary structures to promote research. The support staff collective agreement introduced a number of relevant structures, including the introduction of study leave that has provided the opportunity for them to follow degree courses, as well as to receive scholarships and to have flexible working hours.

A RUDE AWAKENING

The early 1990s proved to be a challenging time for the UoM. The selection of programmes available for study was limited, as were the resources at hand. Frameworks and organisational structures to promote positive change were close to ➤

non-existent. But Malta's European Union membership changed things.

With the EU came an influx of opportunities, but also the burden of comparison. Immediately clear was the fact that the UoM could not compete with its foreign counterparts. Many used their newfound mobility within Europe to look for greener pastures. 'There was nothing keeping us here anymore,' says Buttigieg, 'and many bought themselves a plane ticket; they took their chances.'

Undoubtedly, this was a rude awakening to government officials. The ease with which professionals could leave meant Malta was facing a potential brain drain, a problem that continues to have real repercussions today. It was the Collective Agreement (CA) of 2009 which got the ball rolling to amend the situation. Camilleri suggested certain radical changes while UMASA and MUT provided their own proposals. Then negotiations began.

Academics' salaries, at the time nothing short of paltry, were a big stumbling block in attracting and retaining academics, as many graduates and professionals were favouring private industry. Buttigieg's aim was to see salary levels rise enough to compare with academics' salaries in Europe. For lecturers to get another pay rise worked into the agreement, Camilleri had suggested that it would be justified if academics' hours were extended, making them available from 8 a.m. to 8 p.m. This was the small step that led to big changes. 'At that point, academics had the option to accept these conditions and get their raise or keep their original times.' However, the money talk

opened yet another can of worms. The Malta Union of Teachers (MUT) and UMASA locked horns when it came to the distinction between lecturers teaching at the G. F. Abela Junior College (an educational institution training students to enter the UoM) and those at the UoM, a distinction which previously did not exist, and which previously put lecturers from both institutions on equal footing.

This was a state of affairs which could no longer be accepted by UMASA for various reasons. Junior College lecturers required masters level qualifications to teach a MATSEC set syllabus (equivalent to the British 'A' level system). On the other hand, University academics were not only expected to run their own studies, but also to develop their own material, programmes, research, and so on. The issue was eventually resolved

through an extensive exercise which saw the negotiating teams working out different career progressions for those teaching at Junior College.

Seeking to elevate the standards when it came to research, the 2009 CA also outlined the University's procedures for research funding. 'Getting funding for research was akin to a lottery,' says Buttigieg, 'You wouldn't know when the next call for funding would be published.' Today, the Project Support Office does great work in providing support and aiding researchers access the funds they need for their work.

Another important milestone which began with the 2009 CA was the setting up of its first Intellectual Property (IP) Policy, protecting the rights of researchers, students, systems engineers, technical staff, as well as private companies and the UoM as they strove to collaborate and innovate. This paved the way for the Knowledge Transfer Office and the innovation incubator TAKEOFF to be set up, initiatives which have led to new startups like the award-winning Thought3D, developers of 3D printing adhesive Magigoo. This is not to say that academics were happy with all the new changes. The Teaching Academic Effort (TAE) caused many disagreements. Touted as a new way of measuring teaching contribution, the TAE did away with the minimum number of lecturing hours as a ruler for output and replaced it with a complex system that 'takes into account the number of students you have and tutorials you give, if you have assistants working with you [and so on]'. Buttigieg says 'most people don't

Academics' salaries, at the time nothing short of paltry, were a big stumbling block in attracting and retaining academics, as many graduates and professionals were favouring private industry.

like it. They don't like to be measured.' However, there is more to it than just a lack of enthusiasm for constant observation. In his view, the system is 'bureaucratic rather than an effective method of quality control.' Its saving grace is that it allows for comparison of activity across departments and it gives Heads of Departments a tool to show their need to hire more staff.

A more effective system for quality control with courses within University is the Programme Validation Committee (PVC) for which the recently elected rector designate, Prof. Alfred J. Vella, is Deputy Chairman. With help from the Academic Programmes Quality and Resources Unit (APQRU), programmes are audited and analysed to ensure that they reach an appropriate standard. Students' input is also taken into consideration. All this ensures that optimal use is made of available resources.

Overall, the 2009 CA left academics at University feeling valued. 'Most people were happy with the results,' asserts Buttigieg. It also established a precedent and clearly communicated the fact that the UoM needed to work harder if it wanted to compete on the world stage. And this was a message that continued to be reinforced with the next CA, signed by Montebello in 2014.

BACK FROM THE BRINK

Dealing with Junior College as well as Malta's entry into the EU, brought about drastic changes for the 2009 CA. However, in 2014, there was still much potential for improvement for academics working at University. Spurred on by this mission,

Montebello negotiated an agreement that put eLearning into focus.

'We wanted people who develop eLearning programmes to be given promotions,' says Montebello. And it's not difficult to understand why. eLearning allows academics and students alike more flexibility in their work. It can also be used to entice a foreign student body. 'We are already introducing some study units,' says Montebello. 'Eventually we hope to have a whole degree programme. If we have one full degree online, under- or postgraduate, this will generate income and will be a great step towards the University's sustainability.'

One more step towards efficiency in University elections was the introduction of electronic voting for academics. There had been a major issue with elections at University prior to electronic voting. 'You had faculty deans voted in solely by part-timers, meaning that the entire faculty board disapproved of the

dean. There were instances in which deans would employ part-timers only to stay within their position of power and work funds as they saw fit.' Weighted voting has done away with this issue, giving full time contributors to the University more of a say in the decision-making process and doing away with a damaging loophole. 'This is a major achievement. The system is now more secure, more efficient, faster, and more representative of the academic body. People have faith in it.'

Quality assurance was another important aspect that Montebello homed in on. In the latest agreement, academics consented to provide an updated list of publications annually. Open research is very important to share publically funded knowledge. One such database is RefWorks, an online reference repository. 'In this day and age, if you publish a paper you publish it online and share it with your peers,' says Montebello. 'However, at the moment there are professors, ↻



Prof. Victor Buttigieg, Stephanie Abood and Prof. Matthew Montebello.
Photo by Jean Claude Vancell

even young ones, who refuse to use these resources. And this just cannot be allowed.' In the CA of 2014 academics are obliged to upload their publications on the system. This is a very good way of regulating quality. 'If someone hasn't published in five years, it will ring alarm bells.' Montebello goes as far as to say that academics 'who don't publish anything in two years should be booted out of University. This is how we keep only the best people around,' he asserts.

At this point, the conditions were finally good enough to attract many foreign academics to teach and research at the UoM.

One of those people was Prof. Georgios N. Yannakakis (Acting Director, Institute of Digital Games). He saw the position Malta was in, with its limitations in resources and research, as a challenge. He saw Malta as a 'country that wanted and still wants to invest in what I do' and one that offers an 'EU competitive salary' as well as bonuses through EU grants. Of course, the public health and educational system as well as the Mediterranean lifestyle and Maltese culture, similar to that of his native Crete, did not hurt either. All in all, it was 'a very attractive work/life package and I am very happy to have come here,' says Yannakakis.

But academics are not the only ones making waves at the UoM. Administrative staff have effectively



Photo by www.ICreationStudio.com

Another important milestone was the setting up of the first Intellectual Property Policy, protecting the rights of researchers, students, technicians, as well as private companies

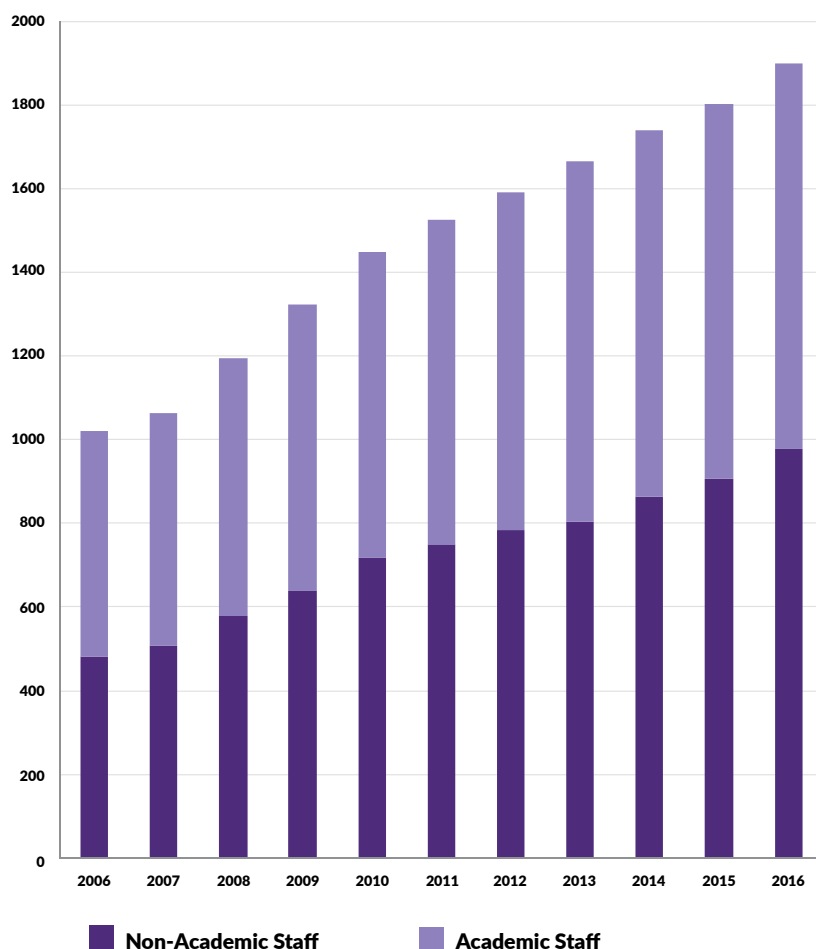
carved out their own position within the institution, asserting their integral role to its function, a role that had been undermined for years. Support staff representative on Council Stephanie Abood, who has been employed at University since 1989, has seen the evolution first-hand and continues to demand more.

'Several positive changes have occurred over the last 10 years', Abood says. Education is promoted consistently and support staff are encouraged to follow diploma and degree courses during their time

at University. Study leave is now offered for a wider range of courses.


In a bid to make posts at the UoM more accessible to people in different circumstances, flexibility has been introduced. Working hours can be flexible. Teleworking is possible and study leave is available. These advances help push lifelong learning while maintaining the work/life balance, working parents benefit from better hours and conditions. All this has created 'a win win situation,' Abood says, especially with the new managerial grades.

Number of employees (full-time equivalent)



Retirement at University can mean a very significant cut in salary for academics. Their earnings have risen to the point that the cap has been reached and when government was approached to amend the situation during Montebello's time as UMASA President, they were flatly refused. 'The only people who get this pension level are members of parliament,' he says, smiling. 'I don't think it will happen, realistically speaking, but it would be the next step in making University an attractive workplace for high-end professionals.' Another alternative replacing a full pension is private pension schemes for academics. Their effect remains to be seen.

Ideally, a contemporary university would provide high quality education to promising students who become valued members of its communities. It would also produce cutting edge research and would nurture new ideas that would keep it at the forefront of innovation, qualities that would make it relevant to the society it serves. To do all this, a university needs to attract and retain a workforce of talented professionals by providing appropriate working conditions. And therein lies the crux of the matter.

The future is a place of big possibilities for the UoM and its people. That much is clear. The question is: Will it rise to the challenge? 

POLISHING AND FINE-TUNING

Representatives Buttigieg, Montebello, and Abood, readily concede that the UoM has come a long way over the last decade. However, they also agree that they are by no means at the end of the road.

In relation to support staff, Abood says that there needs to be 'more job rotation, with employees moving around and doing work related to their studies.' Job satisfaction is key to people producing their best work.

In academia there is way to go when it comes to research. The UoM needs to continue giving research a more prominent role within its walls. Buttigieg expresses disappointment

that the mechanisms created by the 2009 CA, specifically the opening of temporary posts for research, enabling professors to focus on their projects, were abandoned. 'I don't think that for the post of research fellows there was any sort of engagement. It seems to have fallen through. But as an idea it's important. [...] We need these mechanisms that allow people more flexibility and enable research. A university without research will be a normal post-secondary school.'

FUTURE PACTS

The upcoming academic agreement in 2018 has a few tough bones it needs to tackle, including pensions and promotions.



KEEPING A SMALL TOWN RUNNING SMOOTHLY

*The University of Malta has over 12,000 students and almost 2,700 staff. **Patricia Camilleri** talks about international appeal, student celebrations, and key staff that keep the engine running.*


The university experience is complex. The University of Malta (UoM) is a small town with people of all ages from over 90 different countries living alongside each other in a few hundred square metres. It must create the best possible environment to encourage people to work, learn, and research together.

An important group is international students attracted to Malta to study and research. International students are key. They are an opportunity for the majority of local students to learn from different cultures and discuss with people who do not share common life experiences. This helps open minds.

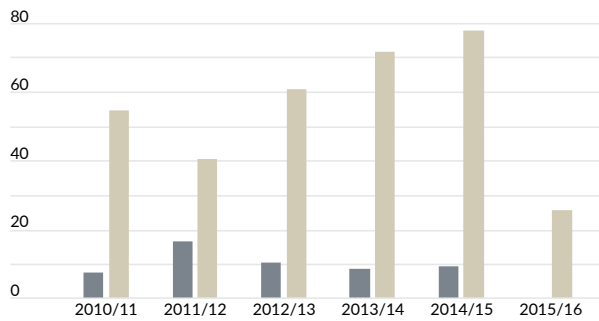
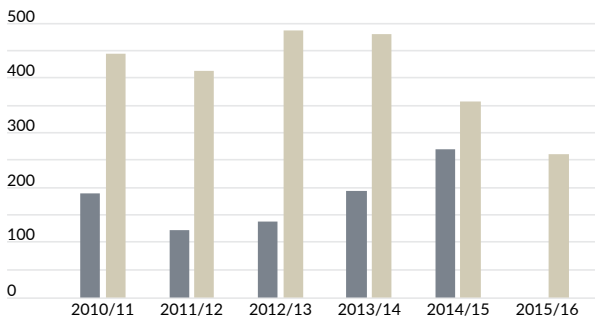
To counteract stiff competition from other countries, all trying to attract international students, the UoM has focused its attention on what international students really look for: a one stop shop to attend to all their concerns. To this end, improvements were made to the campus environment, academic coordinators were appointed in every faculty, specific people now cater for their needs, and there are plans

to build a residential complex on campus (the University Residence and Community Complex, see pg 84). 'One of the biggest challenges,' says Stefania Agius Fabri (Director, International and EU Office) 'is to maintain a support system that never fails a student.' For 18–20 year olds, this is already a difficult time. Add culture shock to the mix and the situation can become very tricky. 'Support requires staff training and constant re-evaluation, focus group work and questionnaires help keep up the momentum. Having a 24/7 helpline, a dedicated office supported by pro-rectors and a Counselling Service really helps.'

In 2007, revisions made to the Foundation Programme allowed the UoM to engage more effectively with Gulf countries. This enabled an increase in student numbers from countries like Kuwait. It attracted the attention of the Ministries of Higher Education in Oman and Saudi Arabia who started to send students to Malta. These were funded through their respective scholarship programmes.

Relations with China were strengthened following the establishment of the Confucius 

Outgoing and visiting exchange students from EU and non-EU countries



■ outgoing UoM students to EU countries
■ visiting students from EU countries



■ outgoing UoM students to non-EU countries
■ visiting students from non-EU countries

Institute at the University of Malta. Linked to Xiamen University, this Institute provides student, teaching, and administrative exchanges, as well as a biannual summer school for Xiamen students. A link with Beijing Foreign Studies University sees future Chinese diplomats and civil servants being trained in the Maltese language—22 people are studying it. Over the last few years, the UoM shares a collaborative degree with the Shanghai Maritime University offered both in Malta and China.

In 2013, Malta and China signed the agreement for mutual recognition of qualifications. The University was thus able to engage well with top universities in China including Shanghai Maritime University through a collaborative degree in Ocean Governance. The University of Malta has set up a Centre for Traditional Chinese Medicine and launched a Master degree in Traditional Chinese Medicine and Culture. Both initiatives involve Shanghai Traditional Chinese Medicine University (SHTCM) that also offers summer school scholarships for students to study in China.



Above: Performers from Xiamen during Xiamen Day, organised by the University of Malta on 23 June 2014.
Photo by Elisa von Brockdorff



Right: University of Malta Rector-Designate Prof. Alfred Vella speaking at the 60th Anniversary Celebrations of Shanghai University of Traditional Chinese Medicine (SHUTCM).

Students currently enrolled

Keeping up its international relations, the UoM's US links go back many years. The UoM has been sending to and receiving students from the US since the 1980s through the International Student Exchange Programme (ISEP) and other direct exchange agreements with various universities. The University of Malta has benefitted extensively from the Fulbright U.S. Scholar Program for decades. Other exchanges involve Australian, Canada, Japan, and Brazil.

The largest student exchanges are with the EU. ERASMUS+ 'has been going for 16 years.' In the first half of 2015 around 250 students descended from all over the EU to Malta joining the 952 international full time students. The challenge is the constant scrutiny not only by the EU but also by the students. 'ERASMUS provides benchmarking and development opportunities, and genuine insights into our own systems' says the Director.

Agius Fabri is particularly proud of the link with Palestine and the development of a scholarship scheme through which two Palestinian students are awarded scholarships



to pursue postgraduate studies in Humanitarian Action and in the fields of conservation and preservation of architectural heritage.

A DEGREE WITH A +

A key component of the university experience is graduating with a degree that goes beyond facts and figures. Employers pick employees on their soft skills. Towards this, the Rector Prof. Juanito Camilleri set up DegreePlus (run by Prof. Joseph N. Grima). DegreePlus offers students learning opportunities not directly linked to their studies. 'These activities offer skills which go beyond the activity itself—organisational and teamworking

skills, and other tools,' says Grima.

Though it started off with a small budget, DegreePlus offers over sixty courses to over a thousand students. The courses include a Wind Ensemble, choir, Latin—surprisingly popular—and other language courses, voluntary work, sports, public speaking, radio presenting, graphic design, and many more. The thorn in its side is keeping the two fixed hours twice a week in the UoM timetable free from student organisations' and lecturers' needs. The small team keeps attracting students and expanding with courses open to student suggestions.

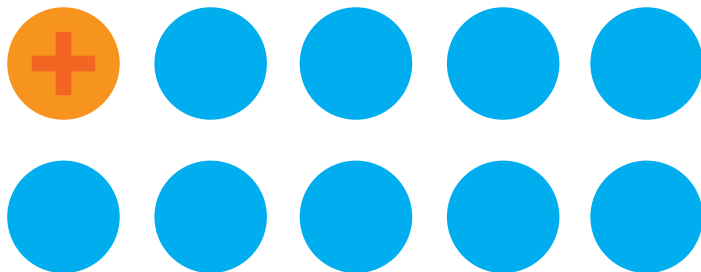
STREAMLINING THE STUDENT EXPERIENCE

To succeed, students need a smooth university experience throughout their course years. The Registrar's Office, steers and pulls together various strings to keep things running well. In 2002 the Student Information Management System (SIMS) was launched. In 2005 an online eSIMS portal—the first port of call for student course needs—became available, streamlining campus administration for students and staff. Arriving to this point was challenging. New technologies, staff training, regular updates, and enhancements were key.

eSIMS replaced most paper communication, a plus for the

Degree+

1 in 10* UoM students is registered for a Degree+ course



*2015-2016



Pro-Rector for Student and Institutional Affairs, Prof. Mary Anne Lauri speaking at the KSU Careers Convention. Photo by James Moffett

A key communication link is between the Office and the Student Council (KSU). While this is not easy, since the KSU executive changes yearly, it is a worthwhile challenge to overcome.

environment. Students can access their own course information and receive notices at any time. They can apply for courses, access results, or apply for transcripts. eSIMS works with a VLE (Virtual Learning Environment) allowing sharing of lecture content. Students are informed if lectures are postponed through email or mobile phone messaging. Apart from eSIMS, the Office publishes online and hard copy Undergraduate and Postgraduate prospectuses. These new communication systems have helped change staff and student mindsets.

Another positive change has been for Gozitan students who can now sit for most exams in Gozo instead of taking an at least two-hour trek to Malta. The Registrar's Office use remote solutions like secure online facilities for examination papers to overcome the challenges this brought. The system handles around 600 examinations covering 80% of the Gozitan student population. These students can now easily arrive fresh and on time for their examinations.

Apart from technological upgrades, the Registrar's Office is also concerned with student wellbeing. Troubled

students can either approach the office or be spotted if an anomaly in their results is observed. The office reaches out to those students to figure out a reason why they might be anxious and advise on the best way forward providing the right assistance. A key communication link is between the Office and the Student Council (KSU). While this is not easy, since the KSU executive changes yearly, it is a worthwhile challenge to overcome.

Another sector of the student population are those with different abilities. The institution of the ACCESS-Disability Support Committee, chaired by Pro-Rector Prof. Mary Anne Lauri, and Support Unit, headed by Prof. Marie Alexander, have made a big difference to the lives of students with disability. They help provide access to lectures and examinations. At present, around 80 students are helped by this service.

GRADUATIONS AND THE ALUMNI EXPERIENCE

At some points in the UoM's history the graduation ceremony was in jeopardy. Over the last 10 years a big push was made to give students back this important ritual that brings everyone together to celebrate a significant milestone in their life.

In 2008, an international competition was launched for the design of Master degree and Ph.D. gowns, trenchers, birette, and colours. Designers from all over the world submitted their entries. Dr Nicholas Groves' (UK) designs won. Ede & Ravenscroft, possibly the best gown makers in the world, created the Ph.D. gowns, colours, and birette. The gowns were introduced for the first time in 2015. Finally, the beautiful gowns and hoods all had an identical design and colours in the same shade.

The Foundation Day Concert, now in its ninth year, is held in one of the most prestigious venues on the islands and was another innovation to celebrate graduates' success. The Malta Philharmonic Orchestra performs popular classic musical pieces and guests are treated to a reception afterwards in the superb La Vallette Hall.

Prior to the graduation ceremonies, which take place at the Sir Temi Zammit Hall (undergraduates) and the University Church, Valletta Campus (postgraduates), all graduands are invited to Holy Mass at the St John's Cathedral Chapter.

The events help create a sense of community for UoM students and staff. They start and leave their Alma Mater knowing that it really cares about them and will continue to do so through its alumni community (see pg 27 on alumni).

MANAGING PEOPLE

There are almost 2,700 staff at the University of Malta. The big increase in the number of staff necessitated a restructuring in the human resources office (Human Resource Management and Development, HRMD) that happened in the last eight years. Mindsets, working practices, and major technology upgrades were needed. 'The changes in policy and procedure are relatively easy to implement but they give rise to the 'soft' issues of resistance to change. We are dealing with people, each with his or her own history and attitude,' said Jacqueline Fenech (Director).

The labour market in Malta has changed. In the days when people looked for 'safe haven' employment, a job at the University was much sought after. The University has now pushed to retrain its workforce, employ more people on a definite contract, and strives for more fluid, dynamic employees.

Staff needs to be kept motivated. Successive collective agreements for administrative and technical staff have tried to adapt to the added life pressures that progress has brought (see pg 14 for the Academic's

Collective Agreement). They updated contracts to include family-friendly measures, teleworking, and other employment benefits. These new working practices for individuals are matched with a faculty's needs. To work correctly, the jigsaw puzzle needed a seachange in internal structures. Fenech is very pleased, despite these radical changes, relations are good with conflicts being resolved through dialogue.

When the Rector was elected in 2006 he planned major changes for the UoM. He foresaw the need for highly qualified senior managerial staff to coordinate all the changes in work practices and construction work that were needed. These staff had definite contracts with specific aims: the Administrative Director was created. This role attracted experts in IT services, knowledge transfer, library services, finance, EU fund management, and other fields. Without that decision, the needed change would have been close to impossible.

IT services have placed employees' details online. The database can easily be accessed and 'talks' to all other areas of the UoM. 'Having this and other technologies in place is,' says ▶



Graduates walking to their graduation ceremony in Valletta. Photo by Tufigno Photo & Video Services

Fenech, 'an enormous relief, but for HRMD it also means that all staff need to be trained to use these systems.' Staff also see the benefits of being able to view their personal information online, download payslips, and other essential documents. 'Just the online pay slips,' Robert Abdilla (Senior Executive, HRMD) tells me, 'has saved hours of work and expenses.' There are plans in the pipeline for further online document access. 'If people see a genuine benefit they will all come on board and start asking for more of it.'

Whilst acknowledging the need to push things when the going gets tough Fenech's open door policy and readiness to listen, backed up by strong University structures designed to help all staff and students, has managed to see HRMD weather the challenges. Yet, there is still a wish list. 'I would like to see the administrative staff practices more in tune with the academic changes. Student and academic life on campus is 8am to 8pm but that is not reflected in our other areas. I'm sure there are ways of achieving this change to the satisfaction of everyone,' she adds with a smile.

KEEPING CONNECTED

IT Services was set up 20 years ago as a dedicated IT support unit for the UoM. Started when the Internet was still taking off, the main mission of IT Services remains to empower UoM students and staff in their teaching, learning, and research activities through the use of ICT. It aims to provide them with the best possible IT support and state-of-the-art ICT facilities and infrastructure.

To overcome a lack of space, a new IT Services building was constructed.

Finalised in September 2011 to the tune of €8 million (part-financed by EU ERDF programme 2007-2013) with the latest facilities and ICT infrastructure. These include IT-enabled learning spaces for students, computer-equipped training rooms for use by all UoM departments, and the latest videoconferencing facilities. The optical fibre cable running under the UoM, efficiently connecting all of the Msida Campus, has been updated. This network is in turn connected to GÉANT.

GÉANT (co-funded by the European Commission) is a pan-European network connecting over 50 million users across 40 European countries. This high-capacity infrastructure uses advanced techniques to overcome the

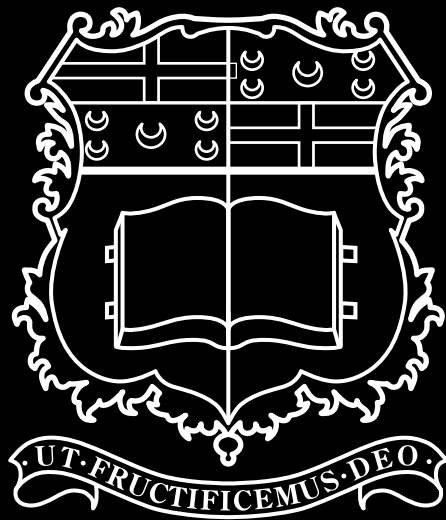
limitations of commercial networks. It enables research and education applications that require transfer of high-definition digital content and real-time interaction including grid applications, multimedia interactive courses, and virtual laboratories. The UoM supports access to GÉANT for all of Malta's research and educational institutions, including a large number of Government schools.

The university experience is similar to a large tower. Each brick, every support service, is needed to keep the top steady. Without a strong network it would quickly crumble leaving its staff and students stranded. The steady increase in staff and students, both local and international, is a testament to its strength. 🇲🇹



Photo by www.iCreatemotivationStudio.com





MY ALMA MATER

The contacts we make at University can serve as vital information well beyond our university life. The Alumni Relations Office plays an important role in keeping ties between former students and their alma mater strong.

*Text and interviews by **Veronica Stivala**.*

Keeping in touch with alumni

The University of Malta used to be the only institution of its kind, now others have joined the field. 'It is good to have healthy rivalry and the UoM wanted to instill a sense of attachment and pride between former students and their alma mater, which remains the islands' largest university,' explains Patricia Camilleri (Director, Communications and Alumni Relations Office (C&AR)).

The alumni section of the communications office was added around ten years ago, its remit has been to build an online alumni community, with a real world presence. Camilleri speaks proudly of a database which now has over 15,000 activated accounts. How did they build this database? 'Initially we reached out to former students to opt in,' she points out, 'but since 2013 alumni accounts have been automatically activated. As an alumni member you are given a UoM IT account and can look up your peers.' Speaking about the C&AR's goals, Camilleri says that 'our aim is to have every single living graduate on the database, which will in turn provide an extremely valuable list

of contacts. We have over 40,000 graduates in Malta, or nearly one in ten people.'

The C&AR tries to build connections between people, not raise funds. It organises events and offers alumni assistance with reunions while providing free space for a reception. The C&AR also publishes the monthly e-newsletter, *The Luminary*, which features alumni oriented information.

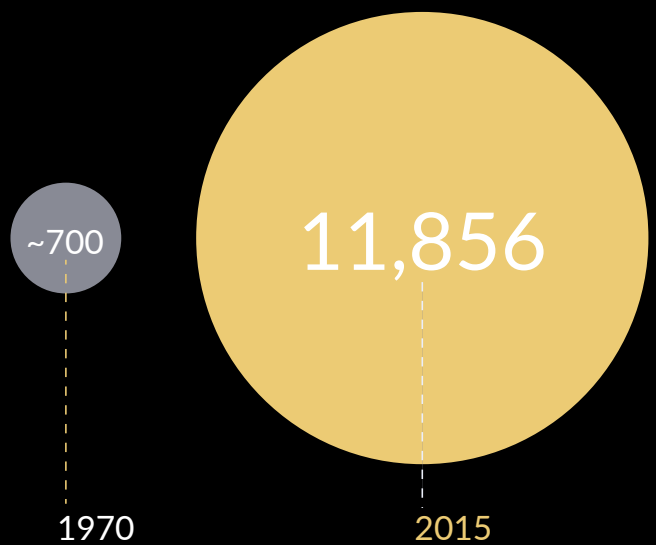
Members can benefit from learning about job opportunities and Camilleri hopes to enable alumni to offer job opportunities, internships, or discounts on their company's services.

An attractive aspect of the C&AR is the Outstanding Alumni Achievement Award, which serves to honour those who have done admirable things, though, stresses Camilleri, 'this is not a prize for excellence or fame, but rather for those who have done a good job and have gone perhaps that extra proverbial mile such as Dr Maria Meilak and Dr Hector Fenech [see articles in the following pages]'. These are the role models the C&AR would like to call upon for its own students to look at and say 'these are the kinds of people we would like you to be'. ➤



Left to right, top to bottom: Pro-Rector for Gozo, Prof. Joe Friggieri; Rector Prof. Juanito Camilleri; Chancellor Prof. David J. Attard; alumni and some former members of the KSU at the Outstanding Alumni Achievement Award Ceremony; the Building Futures installation. Photos by V-Squared Media & Entertainment, and Tufigno Photo & Video Services.

Student population – Then and Now



A look at some of the University's noteworthy alumni

Dr Hector Fenech

graduated B.Sc. (Eng.) in 1978 (University of Malta). He is director of the satellite communications company Future Satellite Systems at Eutelsat. He received the Outstanding Alumni Achievement Award in February 2016.

I have always been interested in communications. Even when I was in school, I enjoyed building radios. My father was a radio technician. I'm sure that helped. I soon started designing my own circuits. During my Masters in Eindhoven, I started thinking about satellite communications.

After Eindhoven, I specialised in satellite communication during a research assistantship in Bradford, UK. That led to joining Ferranti International climbing the ranks to become the Head of the Satellite Communication Systems Group. After this experience I joined Eutelsat, ultimately becoming the Director of Future Satellite Systems.

Looking back, I initially felt my undergraduate course in Malta was too broad however, I swiftly realised that I was also into engineering. When I received my Masters scholarship, I quickly found my degree to be a solid foundation. In Bradford, when pursuing my Ph.D., I felt that was what engineering was all about: spot a problem and let your imagination run free until you find a solution. In a way, this system engineering approach can serve as a life philosophy.

In 1998, the International Telecommunication Union organised the World Telecommunication Development Conference in Malta. Jean Grenier (Director General, Eutelsat) asked me to set up a meeting with Maltacom. That meeting established a relationship with Tony Mejlaq and Prof. Saviour Zammit. This encounter proved key to later establishing WINS, a Maltese joint venture to provide satellite communication services to ships.

In 2004, I was involved with the TWISTER Study: (Terrestrial Wireless Infrastructure integrated with Satellite Telecommunication for e-Rural), a three-year EU funded project (FP6) meant to deploy satellite broadband communication solutions for rural areas. The €8.5m project was led by Airbus Defence and Space. Saviour and I worked on establishing a Ka-band satellite link between Malta and Gozo. This produced a virtual lecture room in Gozo so Gozitan students could follow lectures from Malta in an interactive fashion. In 2007, I started giving a short course on Satellite Communications at the UoM.

You need to be passionate about your career. Then life will be fun. There is so much to be learned. A degree is only a passport, not the end goal. 🍷



Dr Maria Meilak

graduated M.D. in 1973 (University of Malta). She is a medical surgeon and co-founded the Voluntary Lay Missions Group. She is also President of the Society for the Transport of Sick People to Lourdes. She received the Outstanding Alumni Achievement Award in February 2016.



I had always wished to dedicate at least two years of my working life as a volunteer in developing countries. When I finished medical school I worked for two years at St Luke's Hospital in Malta to improve my surgery proficiency before helping others. I thought surgery would cause the least problems in language communication since I hoped that all my patients would be anaesthetised! Malta was an excellent training ground.

My first experience overseas was with Concern Ireland who sent me to Ethiopia in 1975. Sadly, there was a civil war going on during this time. I lived for about nine months in a house shared with female Irish volunteers. They were great and I learnt a lot from them, but I realised the difficulty for a Maltese volunteer to live with other foreigners in a country where English was not spoken much. I believe you need to know the nuances of a language when it comes to sharing a home.

This experience planted the idea of Voluntary Lay Missionaries. When I returned from Ethiopia I started to work on this organisation helping volunteers in Malta to offer their services overseas for a minimum of a year. Then in 1985, with the approval of the late Archbishop Joseph Mercieca and others, we founded the organisation. Between 2000 and 2013, we organised a yearly course in Missiology with the Faculty of Theology, UoM. Several students commented on how rewarding volunteering was.

My advice to young university students is to follow your dream. If you are a believer pray to see what the Lord wants of you. Whatever career you decide upon, try to offer some of your time as a service freely not because you have to. When you are qualified, continue giving this service, even if you can only afford a short amount of time and I can assure you, you will be happy if you do this. Always be kind. ♥

A part from the knowledge I gained from my course, the human experience at university was invaluable. I could build on my skills but it was also a time where I could experiment and do all that excited me. While I never missed a single lecture, I participated in student life first as an SDM (Studenti Demokristjani Maltin) member and then with ASA (Arts Students Association), and finally with the student council (KSU).

University also taught me how to think critically and develop my own mind. However, my biggest achievement was public speaking. I was and still am a shy person but through the various activities I found myself participating in, I managed to overcome this hurdle.

The contacts I made helped build the network that I still make use of today. When I started at JCI seven years ago, this experience from university was incredible even compared to others with important positions. Being JCI Malta president last year and now being elected on the European Development Council have been the highlights of my life. University instilled in me a sense of active participation and responsibility towards being better, and I now want to give back some of what I know and have learnt.

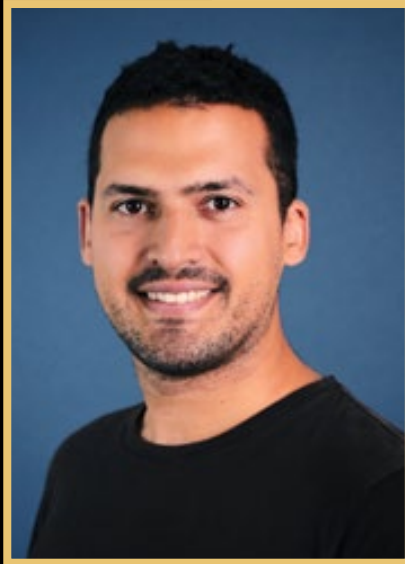
My ties with university have always remained strong. Within a few months of graduating I started working at DegreePlus. While I learned a lot in this position it also served as an eye-opener and I realised that a nine-to-five job was not for me. It pushed me to follow my heart strongly and become a freelancer and while taking this plunge was not easy, it was the right thing for me. I now love the freedom this gives me.

I believe it is important to take the time to see what you really want to do. In Malta, we don't have the culture and structure of taking a year off from higher education studies and maybe it is now needed more than ever. See the world as it really is, imagine it better, and work towards that goal. And another point, take full advantage of your time at university. Don't just go to lectures and go home. There is more to student life. I'm doing what I'm doing today not only because of my course but because I was always hungry for more. ♥

Annalisa Schembri

graduated B.A. Italian and English in 2005. She is former JCI (Junior Chamber International) Malta President and is currently a councilor of the JCI European Development Council. Professionally she is a freelancer in the creative, education, and entertainment industry.





Bernard Schembri

graduated B.Sc. I.T. (Hons) in 2004. He is the founder of the table tennis website store megaspin.net.

It was 1996 and unlike most 13-year-olds I didn't spend a lot of time playing computer games, but I really enjoyed creating computer graphics. When I had Internet access I started wanting to express that creativity online. Back in the real world, I had just started playing table tennis competitively, so I decided my first site would be about that.

Three years later an American table tennis video production company approached me to sell its VHS tapes for a commission. They had no idea I was 16. I knew nothing about running a business but I decided to give it a try. I used some pocket money and started thinking big. I decided to build a bigger website to get more companies to sell every possible table tennis product, plus it was the perfect opportunity for me to learn how to program.

megaspin.net launched in 2001. Fifteen years later it is still running with seven-digit annual sales. Those VHS tapes are no longer for sale though.

I already knew how to program when I started my IT degree but the course gave me a much wider view of information technology which proved to be very useful later on. University is a lot more than the subjects you learn in the lecture room. The IT course definitely helped me improve my problem solving skills, manage my time, and work in teams.

The business took a lot of trial and error but I see it as an ongoing process. I am still reading books and learning. Business skill requirements change over time, especially if you are running an online business. My advice is to be aware of what you don't know and always be willing to learn. Fortunately, there's plenty of material online and a lot of it is free or very cheap.

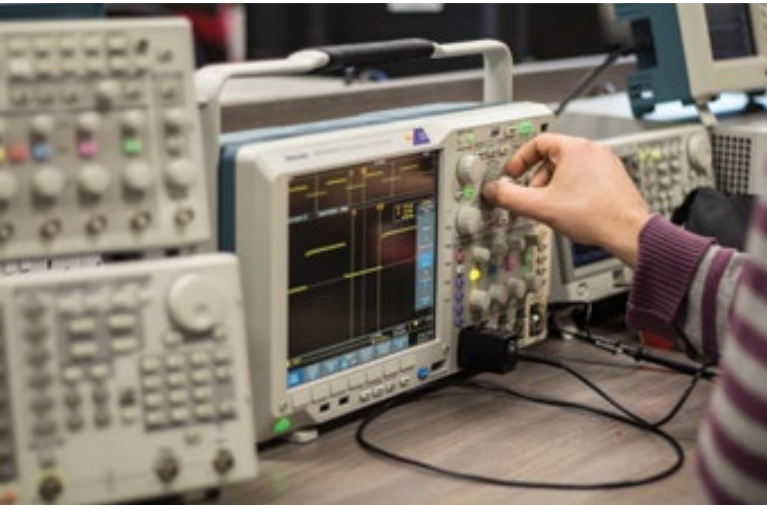
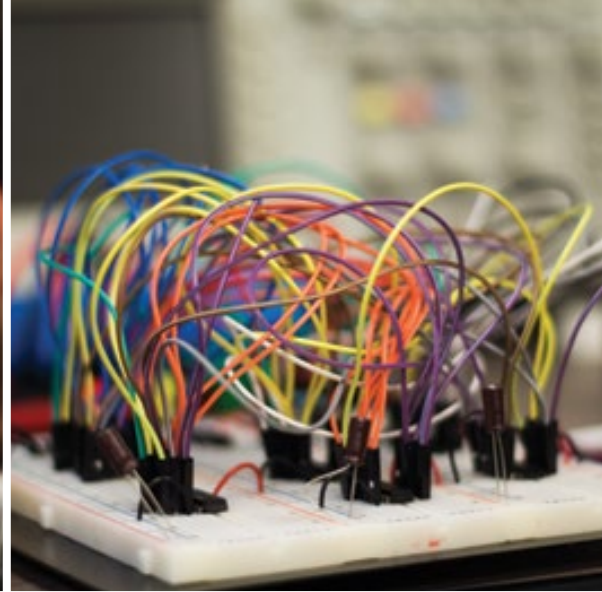
University's startup incubator TakeOff is a great support community for local tech startups, and I am happy to support it through mentoring. You can read plenty of business books, but books don't talk back at you, at least not yet. If you isolate yourself as a startup founder, you may be missing out on important feedback and advice.

It is never too late and never too early. If you are a student it may be the best time to start because it will be harder to find spare time when you have a full time job. If you run an online business, you have access to the same global market as anyone else in the world with an Internet connection. This may sound obvious but it has never been so easy to reach such a large audience from Malta. Find a niche you are passionate about, offer something of value to others, and start small. The money will come later. 🍷



How to make an engineer

Lars Lorenz interviews **Dr Ing. Andrew Sammut** to find out about the Faculty of Engineering's recent EU funded laboratory and the research it has enabled.



Many engineering graduates are well trained in theoretical work, but can come up short in practice.

To combat this deficit, the Faculty of Engineering has invested heavily in laboratory equipment. The most recent is a €839,442 EU grant, which has helped with the modernising of the prototyping facility at the Department of Electronic Systems Engineering.

Students can now work in a fully equipped laboratory fitted with state-of-the-art equipment. The laboratory is designed to replicate the standard electronic production lifecycle common in real world industry.

To experiment with new ideas and potential products, the laboratory allows the simulation of complex

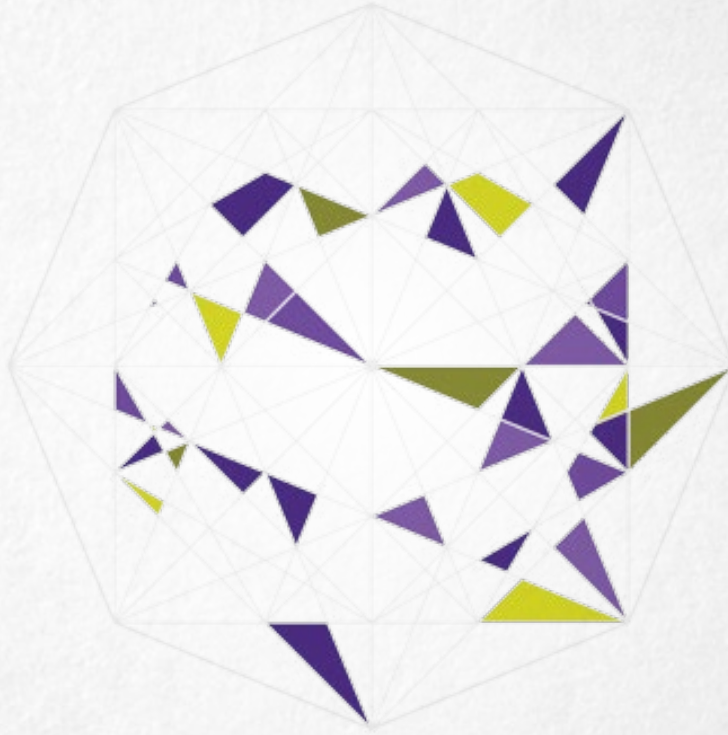
electronic designs. This means students can use industry standard software to virtually test and improve their design, then build it with real components. Students can produce entire circuit boards from scratch, and combine all their components to create a finished product. Individual parts can easily be created by utilising the laboratories' high-precision manufacturing machinery. For the final assembly students can make use of various professional soldering equipment, semi-automated assembly, and sophisticated rework stations.

The lab is used for many research projects. Project leader Dr Ing. Andrew Sammut (Dean, Faculty of Engineering) draws attention to one project that involves the building of CubeSats. These are tiny satellites,

only around 5cm³ in size that are launched into low-earth orbit. They can be used as an experimental platform to gather information about the earth's atmosphere, or to enhance telecommunications. A CubeSat costs €30,000 rather than the €50 million that regular satellites cost. Other ongoing projects involve the design of navigation systems for drones and the instrumentation of the University's racing car.

What is great about this set-up is that students work alongside experienced researchers, gaining skills they can use throughout their career.

With engineering forming the backbone of Malta's industry and infrastructure, it remains crucially important for Malta's economy to train excellent engineers. ♡

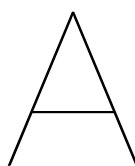


RESEARCH
&
KNOWLEDGE



A **Rags** to **Riches** story

One man identified 'play' as its highest form. One woman called it 'formalised curiosity'. Many describe it as 'knowledge creation'. In developed nations, high quality research is indispensable. A strong economy is built upon expert insight that is transferred to government policy, business, and education. Today, the University of Malta (UoM) boasts a complex infrastructure that exposes academics to numerous funds, provides them with state-of-the-art facilities and equipment, and promotes their work in one fell swoop. But things weren't always this way. **Cassi Camilleri** speaks to **Pro-Rector Prof. Richard Muscat** among others to uncover the leaps made over the last decade to encourage local cutting-edge research.



university's primary responsibility is to teach'. In a world where economies are increasingly

knowledge-driven, is this statement still relevant? Most would say no. And yet, in Malta, this idea has been a major obstacle in the way of the UoM's development for years.

In an interview with newspaper *Malta Today*, outgoing rector Prof. Juanito Camilleri stated outright that decades ago Malta missed out on 'major investments' that would have seen the UoM make huge leaps towards becoming a source of research and innovation in this country. But this was not to be. And it is no secret. While other institutions across Europe were busy setting up their research infrastructure, stocking up their labs and producing critical studies ours was 'stuck' as an almost purely teaching institution—a problem that haunts the UoM till today.

That said, positive steps have been taken. During their terms of office, former rectors Professors Edwin Borg Costanzi, Peter Serracino Inglott, and Roger Ellul-Micallef successfully delivered a substantial number of study programmes in varying disciplines. The new paths available served the UoM well, attracting an unprecedented interest from the student body and seeing the number of yearly graduates

rocket into the thousands. An important ingredient, however, remained missing.

The lacunae in postgraduate programmes, research practices, and research infrastructure were largely unaddressed. This, compounded by dwindling resources and meagre funding opportunities, continued to hold the institution back. Thankfully, things have changed since then.


'A university without research is a secondary school,' says Pro-rector for Research and Innovation Prof. Richard Muscat. Even when it comes to teaching at university level, 'you have to know what is going on out there. You have to be doing your own research. Without research, you can almost forget about professing on your subject at the required level.' But there is so much more that a university stands for, to be considered a fully-fledged one.

Echoing Camilleri's thoughts, as expressed in his invaluable report, *2020 Vision or Optical Illusion*, Muscat says that a real university is one that is

integrated within the local community, producing knowledge through research and thus placing itself at the heart of government agendas. It is involved in providing the necessary material for policy that is sound and effective, benefitting the country and its people. It is also an institution that acts as a direct contributor to the economy, spawning the companies of today and tomorrow—a centre of innovation that will attract talent and business investment.

It was with Prof. Juanito Camilleri's inauguration as rector in 2006, that all of this began in earnest.

LAYING DOWN FOUNDATIONS

There are three things you need to undergo research, says Muscat; talented researchers doing their M.Sc.s, M.A.s, Ph.D.s, postdoctoral projects, together with research infrastructure and funds. The last decade has seen the UoM strategically ticking 

While other institutions across Europe were busy setting up their research infrastructure, stocking up their labs and producing critical studies ours was 'stuck' as an almost purely teaching institution.

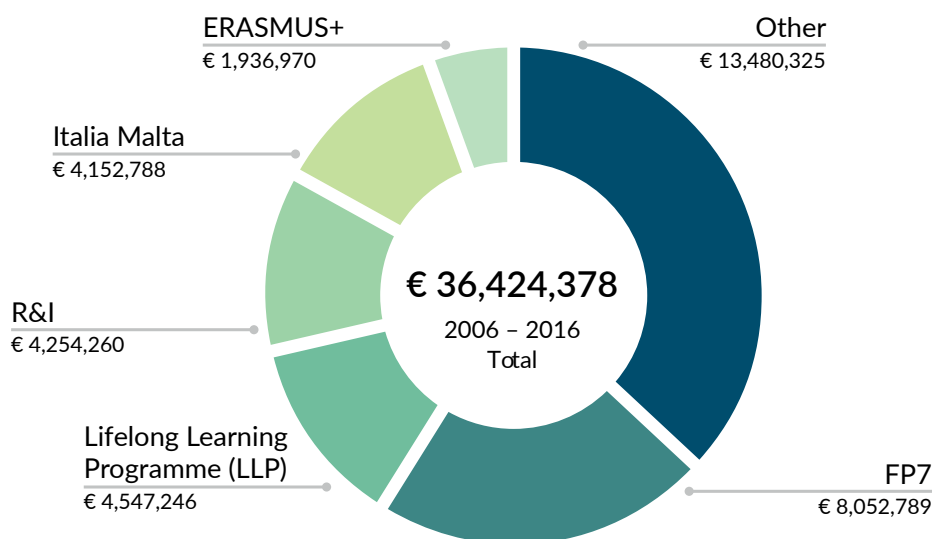
one box after another, laying the foundations and building up these critical ingredients. 'We took it step by step, determining what needed to be done and what we could do, depending on the timeframe and resources,' says Muscat, 'and it started with the Project Support Office (PSO). It has been followed by the Research Infrastructure Support Unit (RIFSU) and, this year, the Research Support Services Directorate (RSSD) that will provide the academic with a one stop shop for research projects.

Resources for research being conducted prior to 2004 were practically non-existent. Few could run any large-scale research projects at the UoM. Upon Malta's joining of the European Union, a new wave of funds was unleashed. Researchers wanted to make the most of their newfound opportunities and project proposals flooded into the rector's office at an impressive rate. With no structure to organise the influx, the whole thing turned into a logistical nightmare. Faced with mountains of files on his first day as rector, all of them awaiting his signature, Camilleri swiftly began proceedings to establish the PSO.

Now headed by Christian Bonnici, the PSO is no longer just about streamlining the process through which research proposals would receive approval by the rector. The structure, bringing people in from the international, finance, and legal offices remains, but their responsibilities have grown, as has the team, going from just three to twenty-eight. The PSO now offers a wide range of services,

We took it step by step, determining what needed to be done and what we could do, depending on the timeframe and resources and it started with the Project Support Office.

Funds obtained between 2006-2016 (excluding ERDF and ESF funding)



including administrative and financial support, as well as advice on technical, HR, and legal aspects. In a nutshell, the organisation helps researchers build their project from the ground up and continues providing support throughout its implementation. In this way, the PSO not only strengthens individuals' performances but also enhances the research environment of the whole University.

With the PSO, and the organisational framework it brought with it, came a major overhaul in UoM's laboratories—mostly EU funded. The new additions included the Biomedical Engineering laboratories, the Renewable Energy labs as well as the new Chemistry labs at Junior College. State-of-the-art equipment was also shipped in. The top-of-the-line Vicon Motion Analysis System was installed at the Biomedical Engineering Laboratory.

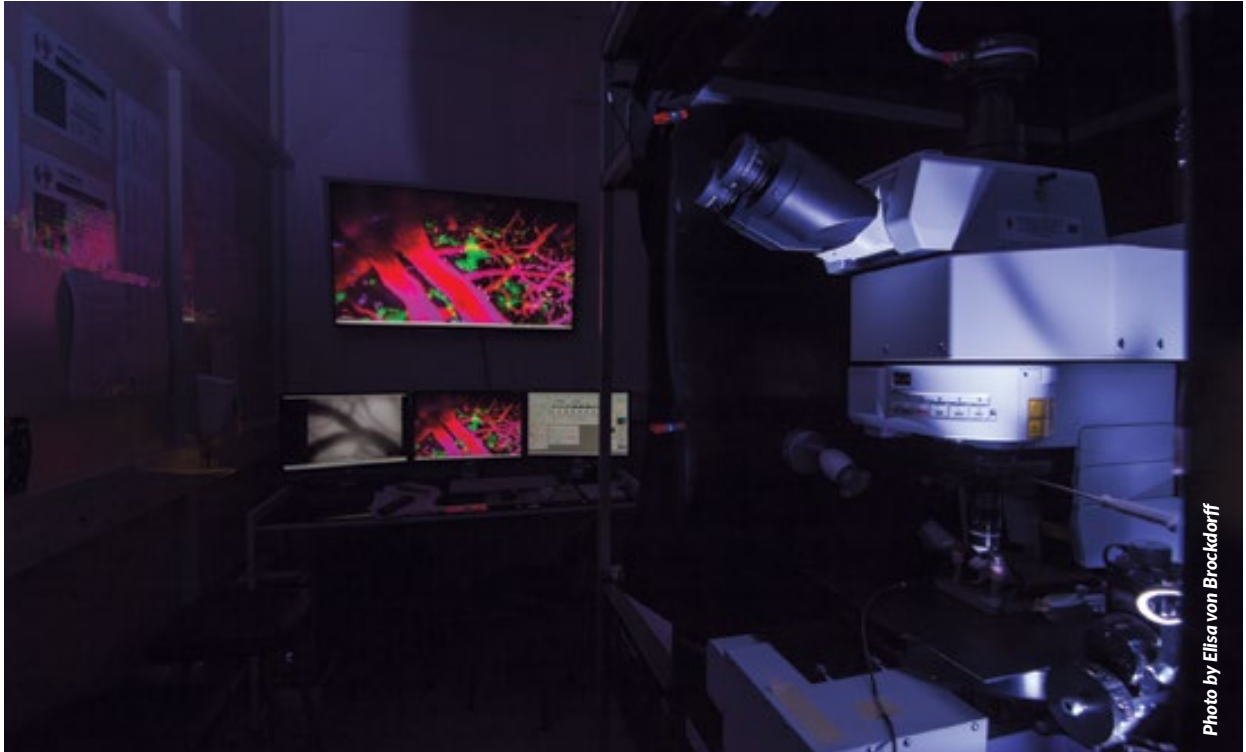


Photo by Elisa von Brockdorff

The motion capture device, among other things, analyses gait in humans, a service which, according to Prof. Ing. Kenneth Camilleri (Centre for Biomedical Cybernetics, Faculty of Engineering) will help numerous health professionals treat Maltese patients in the not-so-distant future.

TIME TO GROW UP: A QUESTION OF SUSTAINABILITY


Funds and resources are problematic worldwide. Science and research are expensive. Muscat brings up the example of the University's Research Fund Committee which is allocated €500,000 per year for research. Unfortunately, that barely covers any research costs. 'With 200 projects running per year, every researcher will receive €2,500. This

is very limiting. Purchasing a few milligrams of a particular enzyme costs at least €1,000. This would last for just a few experiments. So in a few weeks, basically, my monies dry up. Obviously, we need more.'

The Maltese government supports most of the UoM's financing. It doles out millions every year to cover salaries and basic running costs. Better policies could help the UoM grow. However, the government alone cannot invest enough in the UoM. In his 2020 Vision report, Camilleri stated that investment would have needed to grow by 33% between 2011 and 2013 in order for the University to keep up with the necessary growth. In 2013 this would have meant an extra €72 million. Government did not match these needs.

Seeking to tackle the issue head on, Camilleri set up a number

of entrepreneurial entities all of which work in some way, shape, or form to empower researchers and add value to their work, including that of the monetary kind.

At the top of the list is the Corporate Research and Knowledge Transfer Office (CR & KTO), responsible for establishing the UoM's Intellectual Property Policy, which helped academics identify and protect their IPs for the first time, and TAKEOFF, the incubator that brought us MightyBox's internationally acclaimed Posthuman board game. The next stop was the Research, Development and Innovation Trust (RIDT) which sources private investment for high quality R&D. So far, the RIDT has taken the government's initial investment of €500,000 and doubled it; a tremendous achievement. Lastly, is the Centre for Entrepreneurship 

and Business Incubation (CEBI), the newest addition to the group, set up to stimulate growth of entrepreneurship across numerous industries, including science and technology, media, and the creative industries, and many more. With help from the KTO, CEBI now offers a Master programme in Knowledge-Based Entrepreneurship, a move that will help turn UoM ideas into new Maltese startups that will grow into companies working with the UoM.

'The crux of all this, the big picture, is to have Maltese professionals, Maltese IP, and Maltese companies,' says Muscat. 'Having foreign investment supporting research at the UoM is positive,' he says, but we need to be aware that 'if all your major companies are foreign and they decide to move their business elsewhere, nothing is going to stop

them.' All the work done would end up being undermined or lost.

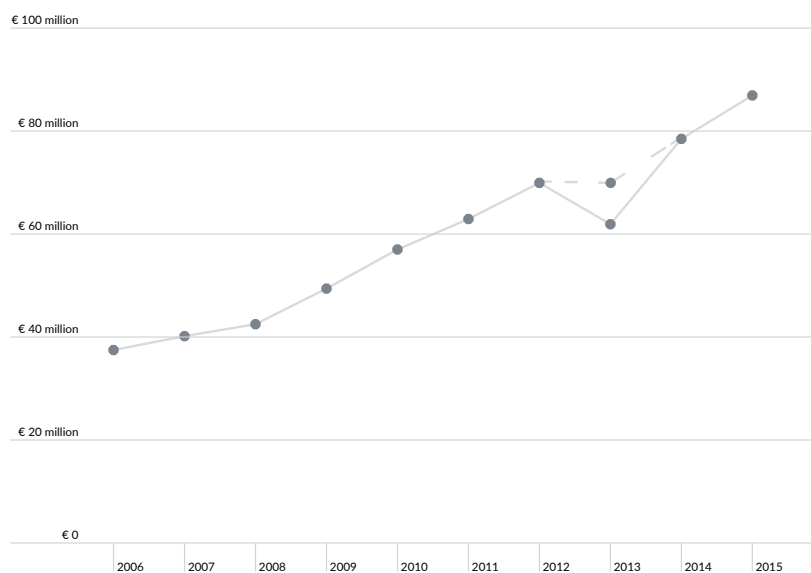
Camilleri has been commended for his initiatives, with representatives from each office crediting him as 'instrumental' in getting things off the ground. And this has translated into a real boost in research. 'In research, the proof of the pudding is in the eating,' says Muscat, 'and that often relates to numbers, the academic totals and the papers they publish.' Looking into this, the results are impressive. The total number of academics at the UoM has 'increased over the past 10 years with some 10% from overseas.' The same could be said for their publications. In research, the UoM has gone from publishing about 500 papers in peer-reviewed journals in 2005 to 2,500 in 2015, a tremendous leap on both counts. One in ten are published in top tier journals competing with

the best institutions worldwide, which is close to the EU average.

And now this work is also gaining appreciation from the general public thanks to another project Camilleri helped bring to fruition—*Think* magazine.

Think is yet another attempt to bring the UoM closer to the Maltese people, and a successful one at that. *Think* editor Dr Edward Duca (Communications & Alumni Relations Office, University of Malta) describes Camilleri as a 'visionary and a genius' who supported his vision for 'drastic change' in the way the UoM communicated with the public. Some warned that he might lose his job over the approach. However, Duca found nothing but support from the rector, leading *Think* to grow and become the prime publication that it is; gaining mainstream popularity being distributed at news outlets

Recurrent revenue profile of the University of Malta



N.B.: The 2013 budget was augmented by an additional €7 million after the election.

Asked to describe his experience working with Camilleri for the last 10 years, Muscat encapsulates it all eloquently into just one word—'Fun'.

across the island and online, garnering respect beyond the islands' shores.

WE'RE NOT QUITE DONE YET

Naturally, there is plenty more that needs to be done. While these entities are now working around the clock to turn the UoM into an institution that generates a greater proportion of its income, the journey is not over yet. New revenue streams need to be found. Improving international rankings and greater marketing of the University to countries further afield would be one way of doing it, Minister Owen Bonnici wrote in a scathing article in the *Times of Malta* in 2011, echoing what everyone else was thinking. However, a brief analysis of that suggestion reveals this is undoubtedly a case of 'easier said than done'.

With EU rules in place, students from member states, like local ones, are entitled to a free education. So while marketing the University is important, the institution also needs to maintain sustainable numbers of EU nationals. This situation has seen the UoM spending increasingly large sums of money marketing to students from non-EU countries like Oman, Kuwait, India, China, and the USA. It has also given rise to one of Camilleri's most controversial propositions in his 2020 Vision report—to start charging course fees. Of course, this is nothing short of a political landmine, one that many choose to steer clear of and ignore, but education is not free and neither is research, making it an unavoidable eventuality. Now at the end of his term, Camilleri will



leave this question to his successor.

'The opening of the Life Science Park, situated next to Mater Dei Hospital, will be a major milestone for Malta. The task of the new rectorate will be to increase the number of Ph.D.s graduating annually to at least 50 and postdocs to match. This key number would allow local spin-off companies to develop,' says Muscat. 'Those to me are the next goals for the new rectorate, if we are to have our own life science companies.'

Asked to describe his experience working with Camilleri for the last 10 years, Muscat encapsulates it all eloquently into just one word—'Fun'.

'At the end of the day, this is the way we worked. He came to me with an idea. I shared my ideas and we planned a way forward. We kept each other posted. I asked for his backing 100%, he gave that to me and more, and off we went. It was a constant evolving conversation, back and forth.'

The incoming rectorate has many obstacles to overcome but, unlike 10 years ago, a solid foundation on which to build is now in place. Muscat supports the incoming rector, Prof. Alfred Vella, and his new team. It is time to 'pass on the baton'; work will continue in earnest. ♡

READ MORE

- Bonnici, Owen. 'Malta Needs a Better University.' *Times of Malta*, 4 May 2011. Web.
- Laveira, Nestor. 'Not Playing Happy Schools | Juanito Camilleri.' *MaltaToday*, 22 Mar. 2011. Web.
- Camilleri, Juanito. *2020 Vision or Optical Illusion?* University of Malta, 2010. Print.

Think Research, Think Malta

*Research is progress. Without it, we would not have found cures for diseases, or solved some of the world's problems. Thanks to the University of Malta's shift from teaching to research, research publications have more than quadrupled since 2006. **Dr Edward Duca** takes a look at some of the University's star research projects.*

Research helps solve the world's problems. You need research to figure out if drugs are harmful, if a chemical can be turned into a treatment, if heavy incarceration really does reduce crime, or if certain policies work to help children achieve more in life. Research is happening worldwide. Research is happening at the University of Malta (UoM).

There has been a shift from teaching to research, as part of outgoing rector Prof. Juanito Camilleri's vision. Research publications have more than quadrupled since 2006, a result of the big increase in the number of academics freed up by a new collective agreement in 2009. Key to their enablement was over €40 million in research funding, most of it from the EU.

And it was the Project Support Team (PST) that enabled access to this EU funding. The team helps academics

find EU funding programmes, apply for them, and administer them. 'Academics are not really interested in doing that work themselves. Our team encourages academics to get into more projects because they know they don't need to do that [administrative] part,' points out Alexandra Attard (Senior Manager, PST). The team reflects a change in mentality for administration at UoM.

'When we were interviewing PST employees they had to understand that ultimately we have to provide a service,' continues Attard. "Servant leadership" is the basis upon which this project support office has been built,' Christian Bonnici (Deputy Director, PST) states proudly. His ethos is a novel mix of mutual respect, while doing a job efficiently: 'I need to serve you [the academic] for the most basic things while leading you to identify the right funding opportunity [...]. But if I serve you then you should trust that I will lead you in the right direction.'

CRUMBLING UNDER PAPERS

When Camilleri became rector in 2006, EU projects needed his signature but he lacked advisors. There was no one specialised in EU projects, which are a unique bureaucratic monster. 'People were getting into them but there weren't the right support structures,' notes Bonnici. UoM lost most funds between 2002 and 2006. By 2007, Camilleri had set up the PST, bringing together members from the International, Finance, and Legal Offices, with Bonnici joining in 2008.

Set up officially as an offshoot of the Finance Office, Bonnici, with the support of his superiors and team, then 'beefed up the structure [...] to get into the non-financial matters'. He started hiring people to provide a one-stop shop, from legal to hiring needs, for every EU application. Cleverly, PST asked academics to add its costs to EU projects, slowly growing a team with



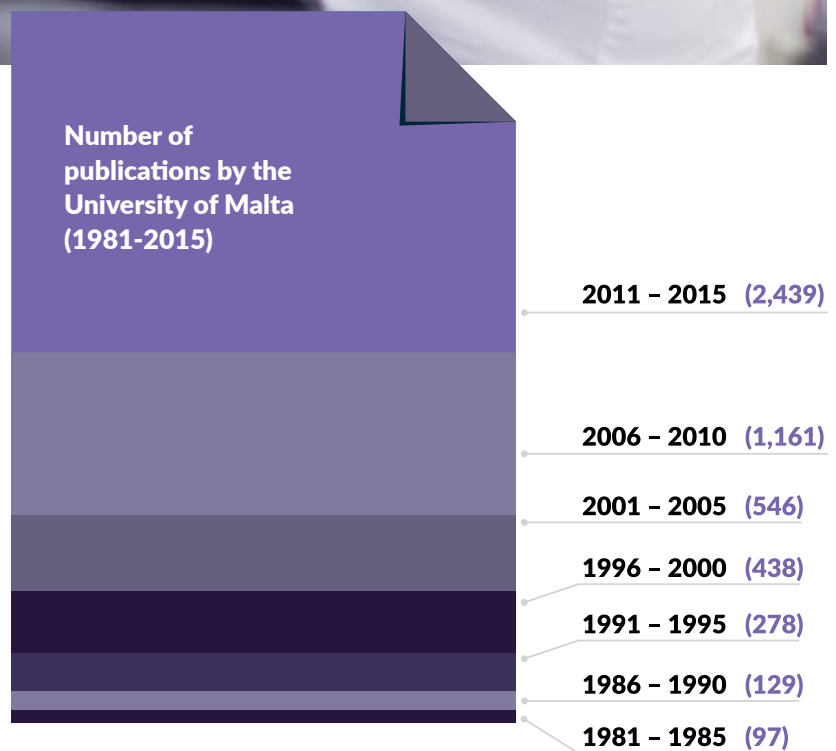
every project UoM won. The team now stands at around 30 members.

Bonnici believes that the best thing that happened to PST was an online administrative management system called AIMS. AIMS 'was the biggest investment in research support [...]'. It helps prepare timesheets, finance systems, and project reporting. Although it might be unappreciated, AIMS has simplified our work [and] helped eliminate cases for ineligible funds'.

The PST also employs Ph.D. level staff, a radical move for an administrative office at the UoM. Every employee has a degree at PST. The highly qualified workforce has 'gained a lot of confidence from the academics.'

PST has joined an EU funded COST project called BESTPRAC aimed at developing a 'best practice in research management and administration' between 30 different institutions around Europe. Apart from developing benchmarks for what each PST ▶

Number of publications by the University of Malta (1981-2015)



Research publications have more than quadrupled since 2006, a result of the big increase in the number of academics freed up by a new collective agreement in 2009.

around Europe should be achieving, 'the group is acting as a lobbying group with the EU.' Malta has a voice to better match EU funds with the local scenario.

The Ph.D. research these employees undergo is usually work-related. So you end up with 'a finance person specialised in research, and a procurement person specialised in research—it changes the mentality completely,' and explains their success.

FEATHERS IN THE UNIVERSITY'S CAP

The UoM recently won one of the most prestigious funds available to academics. Dr Aaron Micallef (Department of Geosciences, Faculty of Science) was awarded €1.7 million to study how fresh water can be collected at the bottom of seas and oceans. He wants to do this by comparing waters around Malta and New Zealand.

'This ERC grant was new for everybody. What we need to do now is see what resources are required and meet those resources,' points out Bonnici. ERC grants 'gauge the success of a university. Obtaining this funding was the cherry on the

cake, our dream,' affirms Attard.

While a Maltese research project was the main recipient of this grant, it is not the only project to have received ERC funding. The FRAGSUS project, awarded funding in 2013, saw Malta involved in the largest ever local archaeological study to the tune of €2.49 million. A team of 80 people, coordinated by Prof. Caroline Malone (Queen's University Belfast) and led in Malta by Prof. Nicholas Vella (Department of Classics of Archaeology, Faculty of Arts), are trying to figure out what wiped out an ancient civilisation—referred to as the Temple People—who built the oldest free-standing stone structures in the world. The civilisation mysteriously disappeared in 2500BC.

Maltese history is a rich source for academic research: the Knights of St John, the artist Caravaggio, the Baroque period, the French and British colonial era, and other topics within the Mediterranean region are all studied intensely (various departments and the Faculty of Arts). But also interested in Maltese history are geneticists. Geneticists look at the historical records within our bodies. The Maltese Genome Project (Faculty of Medicine and Surgery, Faculty of Health Sciences) is planning to sequence 1% of the local population. Its first achievement is discovering that the Maltese population originates from 12th century Siculo-Arabic roots. The same researchers identified the KLF1 gene in Maltese families involved in the blood disorder thalassaemia. Further studies are trying to see how gene therapy and precision medicine can treat thalassaemia patients. The reference

genome from the project will be used in studies from cancer to heart attacks.

Over one in three deaths in Malta are due to cardiovascular disease. A large-scale study headed by Dr Stephanie Bezzina-Wettinger (Faculty of Health Sciences) is using lifestyle and health data with genetic information to find out why. The first findings have shown the typical links between genes and lifestyle. However, the Maltese population might have a higher genetic predisposition than Europe to heart attacks, due to a higher rate of diabetes, a common risk factor. Sequencing around 1,000 participants will tease out the reasons. Another research group led by Prof. Joseph N. Grima (Faculty of Science & others from the Faculty of Medicine & Surgery) is taking a different approach. These surgeons and mathematical modellers want to prevent future heart attacks by introducing heart stents with a groundbreaking auxetic design. Auxetic materials do not shrink when stretched, so the stent (a tube that helps keep heart vessels open) would not collapse on itself. The approach should help prevent blood vessel blockage reducing heart attacks.

A separate study into diabetes by Dr Sarah Cuschieri (Faculty of Medicine & Surgery) is looking into the disease's genetic and lifestyle links in Malta. She wants to find out which gene differences, when coupled with certain lifestyles, tend to lead to diabetes. Another highly innovative study by the Diabetes Foot Research Group (various UoM faculties and Mater Dei Hospital) is trying to develop a relatively cheap and quick way to diagnose diabetes. The group is using a thermal imaging

The Project Support Team also employs Ph.D. level staff, a radical move for an administrative office at the UoM.

Total expenditure on new projects 2001-2016



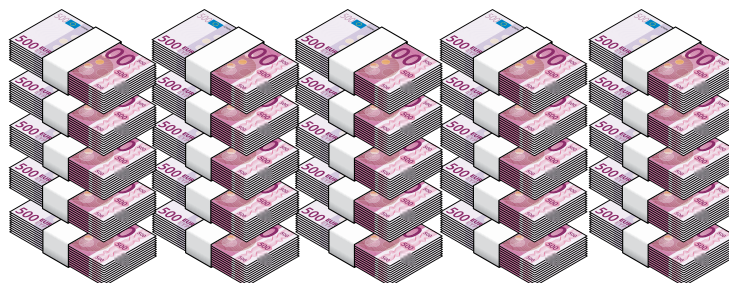
2001-2010

€1.08 million per annum

camera to see if the temperature of the person varies from normal—an early sign that a person could be diabetic.

The University also runs breast cancer research programmes, with local scientists having identified a critical role for PP2A (protein serine/threonine phosphatase type 2A) as a possible therapy target. Kidney disease has also been earmarked as a problem that needs research solutions. For the first time in Malta, many of these projects are being funded by various NGOs (attracted by the University's Research Trust, RIDT); civil society has clearly decided that these issues are important enough to require research solutions.

Apart from genes and diagnosing disease, other researchers are replacing or augmenting body parts. Some are using biocompatible Portland cement (the same as the one used in the construction industry, but with a few critical tweaks) for better dental implants (Faculty of Engineering, Faculty of Dental Surgery). Teeth could soon be upgraded. Others are making hip joints that last longer and are less likely to be toxic (Faculty of Engineering, Faculty of Medicine and Surgery). Nearly 150 people needed hip replacements in 2014 in Malta.



2010-2016

€5.28 million per annum

Other engineers collaborating with surgeons are improving minimally invasive surgery called Laparoscopic surgery, reducing the recovery time for patients—advances that can be used the world over.

As the human body's most complex organ, the brain can also go wrong. The newly set up Malta Neuroscience Network covers research from Alzheimer's disease to SMA (spinal muscular atrophy). Using the fruit fly model, researchers are trying to discover if polyphenols in the Mediterranean diet can mitigate Alzheimer's, while others are unraveling disease mechanisms for new SMA therapies. The network also uses the mouse model for stroke imaging studies, investigates medical marijuana use in epilepsy, and explores depression treatments, to name a few.

The brain is also something to be celebrated. Rather than disease, some cognitive scientists study how we remember things and make decisions. Others study how the brain understands information that changes as time passes: a frown turned into a smile, a baseball moving through space that we need to grab, or how our brain reacts to changes it hasn't

even consciously seen (Faculty of Media and Knowledge Sciences). And linguists are looking into how humans and machines can speak to each other. Maltese speaking robots might be on the way (Faculty of ICT, Institute of Linguistics). Our brains are beautiful.

By 2030, Malta might have 10,000 people with dementia. Dr Charles Scerri (Faculty of Medicine and Surgery) has just led a team that devised a National Dementia Strategy to use research to mitigate the problem. A collaboration with *Perit Alexia Mercieca* (Faculty for the Built Environment) is seeing dementia-friendly buildings being designed. The same faculty is collaborating with seismologists to assess the earthquake risk around Malta, to learn how earthquakes behave, and to then measure how the current stock of buildings would react. The Maltese Islands are the most built up country in the EU, with one third of the islands covered in buildings, so this study could not be more timely.

Researchers also study the seas around Malta. A team led by Prof. Patrick J. Schembri (Faculty of Science) has studied an endless list of creatures that includes fish, beautiful white coral, snails, limpets, and crabs. ▶

Through the EU-funded CoCoNet project these studies are being linked to others all around the Mediterranean, creating a patchwork of knowledge to link marine protected areas sea-wide. The seas around Malta hold other secrets. Underwater archaeologists led by Dr Timmy Gambin recently found WWII submarines, Roman trade ships, and a 2,700-year-old Phoenician merchant vessel. Some of the largest EU projects have been attracted by Prof. Aldo Drago (Faculty of Science) to study the physical oceanography of the Mediterranean Sea from surveillance and security to wave conditions and current patterns. These answer questions about anything as diverse as wave energy potential to oil spill response.

Biologists also study the plants around Malta, while others study insects (Faculty of Science, Institute of Earth Systems). Such studies are vital to identify which areas require environmental protection while safeguarding important industries like beekeeping.

Maltese honey appears to have medical properties. One of the three varieties produced locally has been shown to cure wounds with studies carried out at the University (Institute of Earth Systems, Faculty of Science, Faculty of Medicine and Surgery) in collaboration with industry experts hint at much more powerful medical properties. Other researchers are studying Maltese wine. Oenologists and engineers have set up a wine research station run on renewable energy to prove certain wine making concepts (Faculty of Engineering). From a completely different angle, food scientist Dr Vasilis Valdramidis is studying how to prepare clean food using approaches with fewer

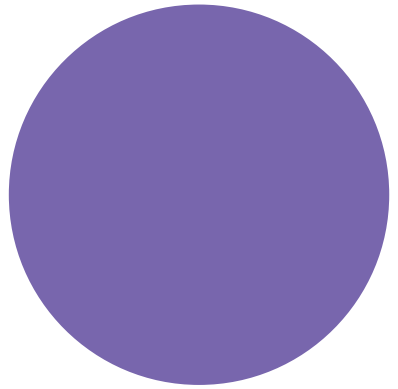
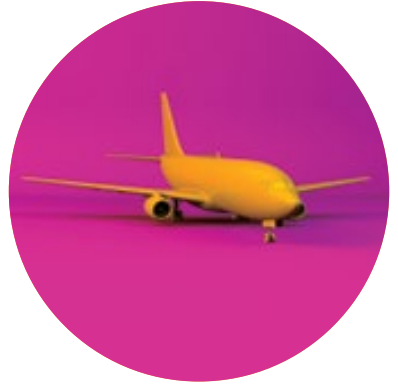
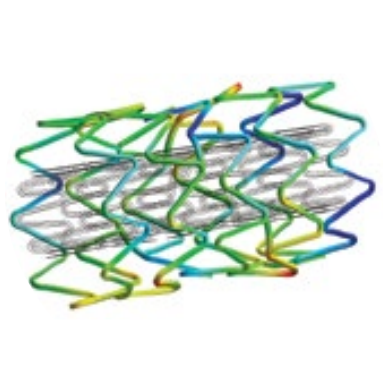
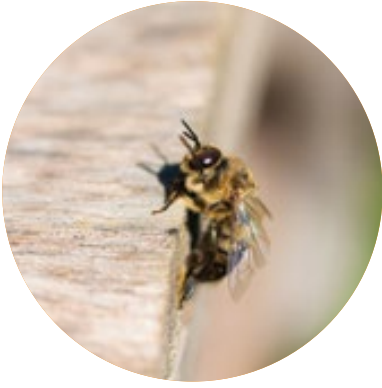


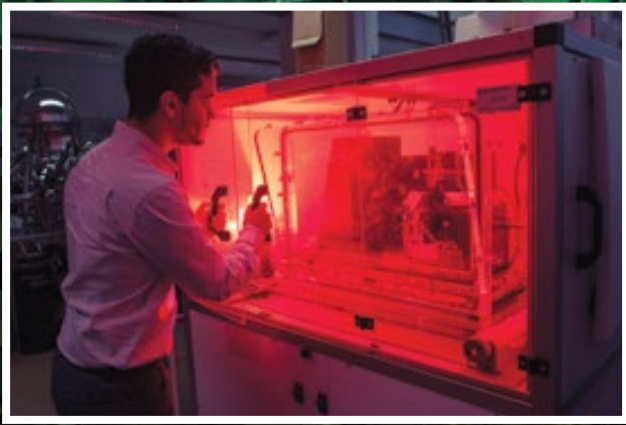
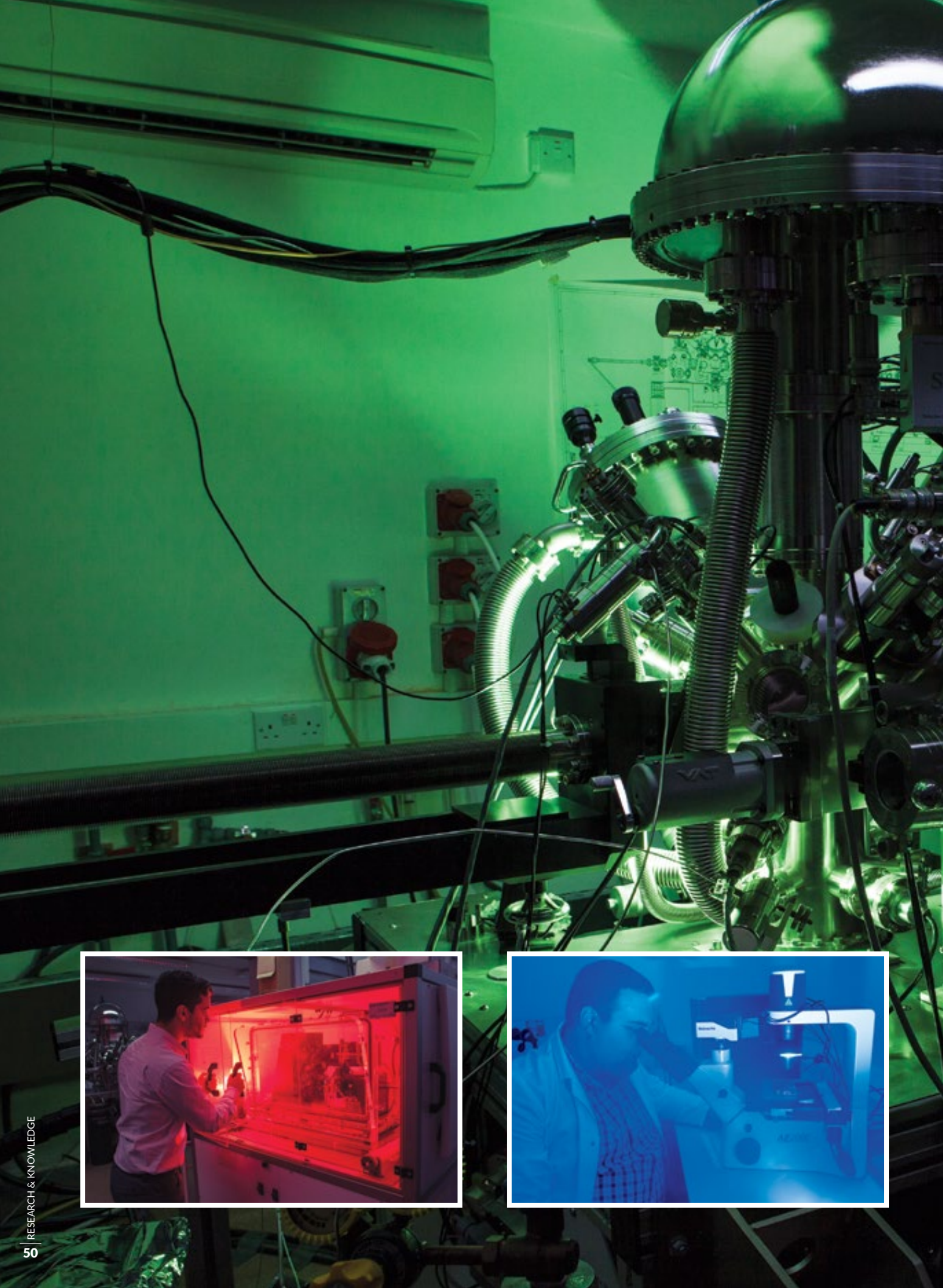
The LifeMedGreenRoof project

chemicals that use less water, an innovative approach that sees sound cavity bubbles used to clean food.

The UoM covers even more diverse research subjects. Researchers from the Department of English (Faculty of Arts) are studying contemporary literature and posthumanism, analysing the effect of modern technology on our lives. ICT scientists are collaborating with the particle accelerator in CERN to understand the physical matter that makes up the universe. Others are studying microelectronic devices used in smart phones, or machine learning, both of which have huge industrial applications. And large EU funds are also being obtained for aeronautics research (Faculty of Engineering, Institute of Aerospace Technologies). The Clean Sky 1/2 and Clean Flight 2 project studied air transport pollution aiming to lower it by 20–30%. Malta played a multimillion role in this transformative project.

These projects just scratch the surface of the wealth of research happening at the UoM. EU funding has enabled the above research, though some funds come from government or are self-generated by the UoM. While research output has skyrocketed, challenges still exist. 'Academics remain heavily loaded with teaching,' laments Bonnici. Another issue is the availability of funds specifically dedicated for research. There are no national funds supporting basic scientific research. Doctorate and postdoctorate funds run by government now exist, yet Ph.D. funds are still woefully small while the postdoc grant scheme called REACH HIGH, while a step in the right direction, has its pitfalls. Apart from this, the UoM needs an autonomous structure for it to raise more funding which it can use efficiently and strategically in research. The staff might be more enabled, but now the institution needs empowerment. 🍇







Collaboration matters

The DMME is one of the University of Malta's best-equipped departments and collaborates with many others. **Lars Lorenz** meets **Dr Ing. Glenn Cassar** to find out more.

Research needs expensive, high-end equipment. Measurements need extreme accuracy while microscopes need to peer at the atomic level when analysing materials.

To maximise resources items need to be shared and well managed. Over half a dozen faculties at the University of Malta (UoM) use the Department of Metallurgy and Materials Engineering (DMME)'s equipment according to Dr Ing. Glenn Cassar (Head of DMME).

This is one of the reasons the DMME was outfitted with over €5.5 million worth of equipment over the last 10 years, with a huge chunk coming from a €4.4 million ERDF grant in 2009.

Material engineering is a highly interdisciplinary field. Novel materials designed for hip joints, teeth, automotive parts, tools, and other applications are all tested in collaboration with medics, scientists, and dentists from other faculties. Cassar and his

team provide scientific advice and help. They also assist industrial partners, which generate revenue that is entirely reinvested into the laboratory. Doing so allows the DMME team to maintain its equipment to the highest standards.

'The laboratory's star piece is the Scanning Electron Microscope (SEM)', says Cassar. The equipment, priced over €830,000, allows researchers to see the structure of materials down to a magnitude smaller than the width of a human hair. The microscopic world is beautiful to visualise, but this microscope can give detailed information about a material's chemical composition and surface structure.

Currently the equipment cannot be used at full capacity. The limited space leads to the machines interfering with each other. In the coming years the department will move into a new building specifically designed for their requirements as part of the UoM's Master Plan. ▀



ENTREPRENEURSHIP
& INNOVATION



Turning university ideas into business

What qualifies as a business savvy idea or a piece of research with commercial potential? Should the idea be shared or kept secret, and how long does it take to get rich? **Veronica Stivala** explores the development of a University idea from research to market.

You have a great idea for a business or perhaps you've conducted research which has the potential to be developed into a possibly lucrative business. But what are the

steps you need to take to ensure its success? Who should you share the ideas with and whom should you collaborate with, if anyone at all?

The University of Malta (UoM) has a number of structures in place that can help guide an academic or entrepreneur in the right direction. I speak to the various experts on campus who guide me through the process of how to turn a university idea into a business.

TYPES OF IDEAS, RESEARCH

First things first. Which ideas or types of research qualify to be turned into business ventures? Professor and Entrepreneur Russell Smith (Centre for Entrepreneurship and Business Incubation, UoM, set up in 2013) admits that while the

question may sound simple, it is a complicated process. In a nutshell, he notes, 'you have to have something to sell, that is, a product or service.'

Echoing Smith's words, Martina Pace (Knowledge Transfer Office (KTO), UoM, set up in 2009) points out how 'an entrepreneur needs to find opportunities where it makes sense to sell a product or service. If such an opportunity also responds to a national or social need, that's great, but not necessary for the success of the entrepreneur.'

Unsurprisingly, money is the main problem since one has to raise the finance to get [the idea] from research stage through to commercialisation. 'A successful venture,' observes Smith, 'has to have the opportunity to raise investment (selling shares to investors known as "equity finance"). It has to be something that can sell in huge quantities! A drug would be a good example of such an invention.'

The KTO has worked with ideas like these and has a long list of successes: 42 patent applications, 20 granted patents, eight design registrations, ➤

and 70 disclosures. It also brought to Malta Climate LaunchPad, a business idea competition, and Falling Walls Labs, another competition for the best research work, ideas, and initiatives.

Pace notes that, if the KTO can show that an idea has commercial potential through its market research, it will choose to spend time trying to promote that idea or technology to potential 'buyers'. The only determining factor as to whether something can be successfully commercialised is finding the right 'buyer'. In the case of university technology, this is likely to be a company that is willing to license-in and further develop the technology into an actual product.

While everyone agrees there is no quick and easy recipe, Andy Linnas (TAKEOFF Business Incubator, UoM, set up in 2014) underlines some ingredients that can help. His recipe for a successful venture includes



Andy Linnas

working with the right people and having the right culture within the company that will create a good working environment. TAKEOFF tries to bring together these components for technology and knowledge-based entrepreneurs by helping start-ups transform their ideas and innovations into market- and investor-ready businesses.

STARTING FROM SCRATCH... TIMELINES

A point to keep in mind in the development of a university idea is that each idea, each research product is different. Indeed, Smith stresses that 'the spectrum is vast and the process is definitely not a one size fits all solution.' In the same way, the timeline is entirely dependent on the product.

Citing an example from his line of research—the development of a cancer treatment—the timeline is a minimum of 10 years to go from the lab to market and costs a whopping \$1 billion. On the other hand, there may be other ideas that can be turned into a product rapidly and with less funding. 'What is definitely required,' he underlines, 'is an approach that is specific to the opportunity.'

Building on this, Pace advises 'spending some time at the start understanding exactly what it is that will be sold, to whom, and why buyers would desire that product/service over other options.' There is always competition, even if there is no similar product. 'A customer may decide to do nothing, which is an option which

competes with buying your product,' she notes. 'Once you have this information,' continues Pace, 'expert advice should be sought, for example, through the TAKEOFF Business Incubator to help navigate through the IP (intellectual property) field and other areas, which can be time-consuming and complicated for the entrepreneur.'

WHOSE LINE IS IT ANYWAY?

A key point in the commercialisation of a university idea is that—in Smith's words—'nothing belongs to the academics.' Intellectual property always belongs to the employer, which is, in this case, the University of Malta. 'So,' he advises, 'the academic must speak to the KTO to find a way of working with the University.'

Indeed, partnering with the right people is one of the vital elements in the process of developing a successful business. Smith is adamant that 'successful businesses are run by business people, and not academics' and he goes so far as to warn: 'Academics, don't do it! Stick to what you are good at,' is his mantra: 'world-class academics are great at being world-class academics. They need to match themselves with the right businessman.' The mistake, he explains, is when they try to be business leaders themselves.

Linnas is of the same opinion and notes how skilled people who will deliver on all the visions, missions, and plans are vital for a successful business. He confides though, that the problem is that 'skilled people are

always involved with some interesting work. The issue is to find a way of attracting someone with the right skills to a project and keeping them engaged over a long period of time.'

The same works in reverse. If an entrepreneur is looking for, or wishes to create, opportunities, then they can approach the KTO which has a number of technologies/projects which it wishes to commercialise and would be happy to license to an entrepreneur to turn them into a business. KTO offers support in terms of licensing intellectual property rights and assisting with funding opportunities.

Of course, finding the right person is the tipping point. Linnas points out that 'our experience has shown that the lonely entrepreneur is more likely to fail. As the growth of the business takes off, it needs multiple funders who can share the responsibility and divide the activities,' he comments. He goes on to note how 'partnering up is much like marriage—it takes time to find the right fit and the path to success can have quite a high "divorce" rate.' ➤

Partnering with the right people is one of the vital elements in the process of developing a successful business.



Dr Ing. Anton Bartolo. Photo by Jean Claude Vancell

GUIDING ACADEMICS WITH THEIR IDEAS

The KTO has defined a process for academics with an idea to go through. It involves the following steps:

- › The academic **describes their project** in detail, going beyond the scientific perspective
- › The KTO establishes whether the University owns the **intellectual property** in the project
- › The KTO assesses what the intellectual property of **potential value** is; is it a new method, a new device, know-how, is it protectable, how strong would the protection be if we protected it, is it easy to reverse-engineer or to design around, etc
- › The KTO assesses **whether there is a market** for the technology by determining the different applications the technology might have, and the benefits for the users
- › Once the KTO has established that there is protectable IP and that there is commercial potential, they generally protect by patenting. However, they also protect by registering design rights

MONEY MATTERS

There is no skirting the fact that the issue of finance is a complex one. Smith is direct in explaining that there is not yet an established culture of funding spin-out companies through equity finance in Malta. 'Loans from banks are impossible when early-stage spin-outs do not have products on the market simply because there is no revenue from which to make repayments,' he notes.

All is not lost and Smith is keen to promote the new tax incentive scheme for investors that Minister Chris Cardona recently put forward to encourage people to invest in this kind of start-up. Of course, for this to work it has to have a very high rate of return. Smith notes that 'financiers do not back good ideas. They back good management teams with a good idea.'

Linnas also argues that 'having enough funds, as well as time, are vital ingredients.' As with Smith, he explains that such funds will be available 'once [entrepreneurs] can prove that [they]



Andras Havasi



Martina Pace

are capable of solving the problems that need solving, with the right kind of people who love what they are doing.'

Again, the KTO plays a vital role here and offers expertise in applying for local and foreign sources of funding. Funding applies for research and development, as well as for starting a business. The KTO can assist the entrepreneur in accessing these funds, thereby increasing the chances of success of the project.

BE READY TO FAIL

While thinking your project through is imperative, being ready to fail is imperative to success. Linnas notes how the perfect product does not always sell or win. 'Figuring out the product or services is half the solution,' he says. 'You will need to know who to sell to and how to do it efficiently over and over again.'

While entrepreneurship is a rewarding path, all agree it is an extremely tough one. No one talks too much about the emotional roller

coaster an entrepreneur goes through, reveals Linnas, adding that 'you will get 1,000 "no"s before striking that golden "yes". Learning to persevere is another skill that no one will teach you.'

MUM'S THE WORD?

I'm curious to learn how much an academic with a good idea should share with others, perhaps in the hope that sharing a good idea will lead to an even better one. But Smith warns that sharing ideas in this case can destroy the business prospects for an idea or research entirely. 'It is your duty not to talk about it,' he asserts, adding that the idea cannot 'be patented if it is in the public domain.'

Keep your idea secret and speak to the KTO. The KTO has defined a process by which any academic with an idea is guided in order for the feasibility of their idea to be assessed.

DON'T FORGET THOSE SOFT SKILLS

'Many starting businesses take their idea very seriously and focus on their product too much,' says Linnas. New entrepreneurs forget to network, build relationships, spend time with their customers, spend time with their teammates building the culture they really need. In doing so, they overlook the importance of soft skills. Soft skills matter, so 'your team's culture will define how the team will act when the going gets tough.' He says that today there is no room for the old-fashioned 'employee' mentality. 'Everybody needs to make a Herculean effort to get a start-up business off the ground, which means working extra hours and extra hard to build value



Minister for Education and Employment,
Hon. Evarist Bartolo during the launch of TAKEOFF

Everybody needs to make a Herculean effort to get a start-up business off the ground, which means working extra hours and extra hard to build value with customers, because they believe in the company's mission and not because they need to earn a salary.

with customers, because they believe in the company's mission and not because they need to earn a salary.'

STEPS FORWARD

Luckily in Malta, the University of Malta has been running a Master in Entrepreneurship for three years and will shortly have 75 graduates. 'Wouldn't it be great if we could match them to the academics?' Smith asks. Smith reveals how the University is now working to create a doctorate in Entrepreneurship. This has never been

done before and will take the form of a three-year programme. For the first nine months, the doctoral candidates will work with nine opportunities based on the ideas from University academics, looking at one a month. This will give them the understanding of how to assess a business opportunity. Following this they will move into the phase of working with fledgling entrepreneurs, during which time University experts will supervise them. In this way they will help to get the academics moving in the right direction to take up an idea and grow it themselves.

SO HOW DO YOU TURN A UNIVERSITY IDEA INTO A BUSINESS?

The long and the short of it is that there is no one, clear-cut way of doing so. Depending on the idea, the business can take well over 10 years, as was the case with Prof. Smith's development of cancer treatment, or much less, if the idea can be turned into a product more rapidly. What is definitely required is an approach that is specific to the opportunity. It is also imperative that you safeguard your idea until you have spoken to the KTO because once it makes it to the public domain, it is no longer your idea. Indeed, the KTO is a key cog in the wheel and seeking their advice is imperative if you want to turn your idea into a business. Some closing words of wisdom? Don't be afraid to fail, and make sure you have a good management team! 🍀



enterprising entrepreneurs

Lars Lorenz interviews **Prof. Russell Smith** about the Centre for Entrepreneurship and Business Incubation's M.Ent. postgraduate degree, successful start-ups, and a new reward-based crowdfunding service called Zaar.



Crowdfunding services like Kickstarter have made it possible to fund an idea and launch a new business. Companies like Facebook and Google show the potential tech start-ups have, and inspire many others to develop their own Intellectual Property (IP) and try their luck. Start-ups are thriving with 100 million launched annually but just over half fail. Young business founders typically do not have the experience to run a business, while competition is cutthroat.

The Centre for Entrepreneurship and Business Incubation (CEBI, University of Malta) is the academic arm of a new start up ecosystem trying to turn ideas into successful businesses. CEBI offers a Master's degree in Knowledge-Based Entrepreneurship

(M.Ent.), consisting of ten modules over the course of three semesters. The Centre introduces students to the basics of entrepreneurship and finances, as well as how to plan marketing strategies, while encouraging them to make their ideas happen.

Students are then paired with a tutor for their entrepreneurship project. Through the project, their business ideas are evaluated for their viability and sustainability. The idea is then developed into a fully-fledged business plan by the end of the degree that can be launched as an actual business after graduation.

Prof. Russell Smith lectures on the M.Ent. at CEBI and has already helped over 3,000 people into business. He has taught similar degrees in Italy, Latvia, and seven UK universities including Oxford. He was invited to



Prof. Russell Smith

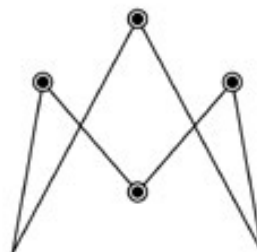
Malta and is now planning to deliver a doctorate in Entrepreneurship (D.Ent.) here. This is one part of the jigsaw to create the right environment to turn ideas into business to boost Malta's socio-economic growth. Prof. Smith sees immense potential. ➤



DISCOUNTIF™



MIGHTY BOX



INBOUNDMUSE

Data should inspire

THE GRADUATES

Although the course has only been offered since 2013, 75 people have undertaken CEBl's M.Ent. degree.

One of them is Lewis Holland, CEO of DiscountIF. Holland was part of the first batch of students, and has made good use of the CEBl training.

'What if you could get your money back on anything?', Holland asked at one point, planting the seed for what will eventually grow into a successful start-up. DiscountIF is a service through which people can purchase products online, with the chance of getting a 100% refund. The catch is that customers need to predict the result of certain public events correctly in order to be refunded. The idea is simple: instead of giving out a 10% discount to everyone, the service refunds approximately

every tenth purchase in its entirety, also there is no drawback if the prediction was wrong, since customers would probably have bought the item anyway.

Another graduate is Tyron Baron, now CEO at InboundMuse. He completed the M.Ent. degree just after launching his company in 2014. '[My] offices are part of the TAKEOFF Business Incubator at University, meaning that some of my best [mentors] are always available', says Baron, indicating how he has already benefited from their support and networks. InboundMuse is building an artificial intelligence [AI] system to understand brands through online media. The AI system will be used to build strategic and tactical marketing plans and help marketers enact them.

'In a sense, it is like an enhancement drug for marketers.' Baron

emphasises that 'a new company needs to be innovative if it wants to succeed'. InboundMuse found its niche by approaching key companies. They now plan to expand the business internationally.

NEW MONIES

Business is unforgiving. One of the biggest hurdles is raising finance, but how do you encourage people to invest in fledgling, high-risk start-up businesses?

A new source is online crowdfunding. The idea has existed for a few years now and Malta has joined the movement by starting its own service called Zaar (www.zaar.com.mt). Zaar is a joint venture between the Malta Business Bureau and the University of Malta, which enables people to



After seeing the incredible response to the project, even the government and Mater Dei helped out, proving that crowdfunding can do more than raise money.

showcase their project, to show how much money they need to make it happen, and to attract people to invest in some way. These backers could be buying an event ticket, a product, or backing a cause, although these items might not yet exist. If the backed project gets funded successfully, then the fledgling company has to deliver.

Reunited Pet Cabin is a Zaar success story. Over €13,000 were raised to create a designated pet area within Mater Dei Hospital. After seeing the incredible response to the project, even the government and Mater Dei themselves helped out, proving that crowdfunding can do more than raise money. Zaar helps raise awareness about innovative products but also important social issues. 'There is more to crowdfunding than simply attracting enough

money to kick-start your project,' elaborates Zaar manager Karl Grech.

No perfect recipe exists to start up a business. While having a good idea and knowledge of what steps to take next go a long way, they are no guarantee for success. Many start-ups fail and prospective entrepreneurs need to learn how to do things properly—a good academic background in entrepreneurship helps one deal with these problems, but practical experience and mentoring are key. This issue will be tackled in the D.Ent. programme, but a country's start-up culture takes time to nurture. Another five to ten years will probably have to pass until we experience a noticeable effect of these [programmes]', says Smith, 'but we are slowly getting there. These things don't happen overnight.' 🍌



Printing Magic

Lars Lorenz interviews **Keith M. Azzopardi** and **Edward Borg** on Thought3D's new product MAGIGOO, and how it improves the process of 3D printing.

Objects from jet engines to satellite models can today be printed in 3D. Yet the process is still imperfect. One major problem is print detachment and warping leading to printed objects moving during print and thus ruining them. Thought3D, a Maltese start-up company, has come up with a solution: MAGIGOO.

MAGIGOO is a smart adhesive that can be applied to the base plate before printing. When hot MAGIGOO is very sticky, but after the print is done, it allows effortless removal.

The original idea for the product was internally developed by Thought3D to solve their own printing problems, but they quickly realised that other companies could benefit. They launched it at one of the largest 3D printing events in the world, the TCT Show + Personalize.

Thought3D has received help from TAKEOFF, the business incubator at the University of Malta, and Malta Enterprise. TAKEOFF provides helpful mentorship, support, and advice to entrepreneurs. While company directors Keith Azzopardi and Edward Borg both had a technical background, this mentoring in running a business is exactly what they needed.

The team wants to keep innovating and to push 3D printing forward by researching and developing new products like MAGIGOO. ♥



The Art of Gaming

Lars Lorenz interviews **Marvin Zammit** of *Mighty Box Games* about the company's first steps and their hit-game.



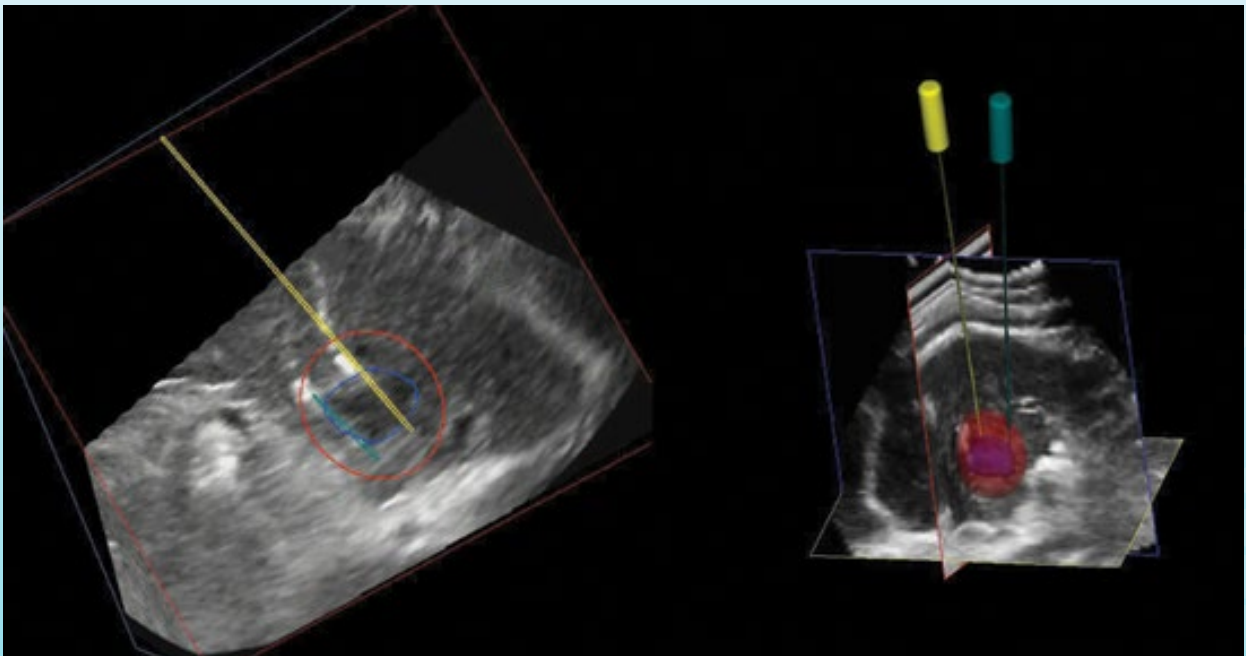
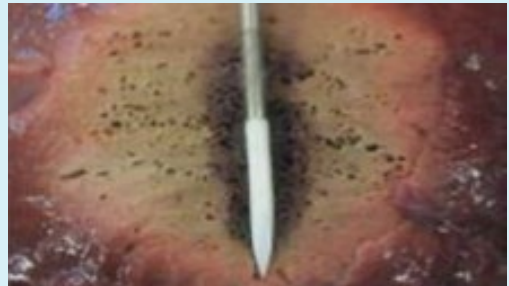
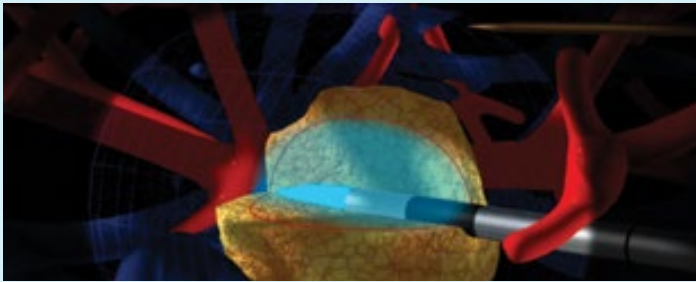
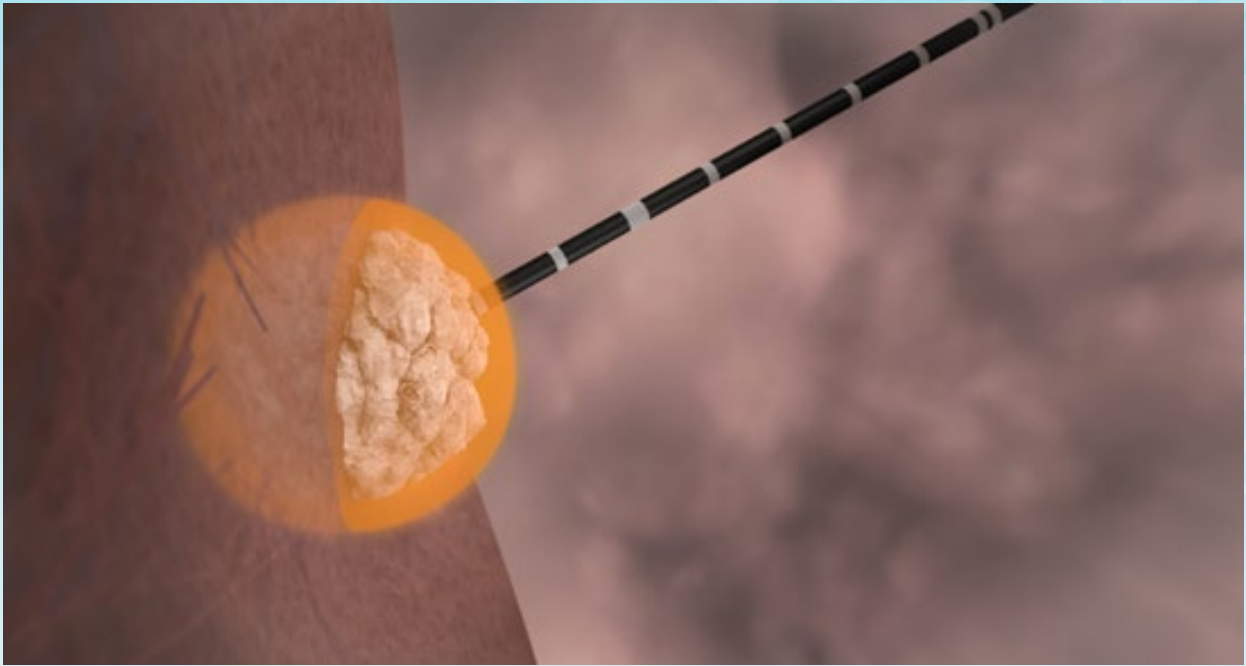
Are games an art form? Mighty Box Games' *Will Love Tear Us Apart?* certainly is. It revolves heavily around the concept of emotions and relationships. 'The game adapted the song "Love will tear us apart" by Joy Division into a dark and depressing video game, to reflect the mood of the song', writes Marvin Zammit, CEO of Mighty Box. The game has been very successful, receiving praise and coverage from all over the world, with three nominations for international awards. Catalysed by their success, the team managed to turn Mighty Box into a fully-fledged game development company.

Currently the company is greatly supported by the TakeOff business incubator at the University of Malta. TakeOff provides the team with a place to work, while also providing invaluable mentorship.

Business advice is especially appreciated by startups— the Mighty Box team members had no prior experience. Mighty Box won Malta Enterprise and TakeOff seed funds, as well as financial assistance from the Malta Arts Fund. Another key success was their board game *Posthuman* that raised over €300,000 on Kickstarter when launched last year. They are now planning a video game version after receiving funding from the Malta Digital Games Fund.

Mighty Box is one of the few Maltese indie-game development companies. It is paving the way for more local talent to enter the industry. Their future plans see them developing dedicated teams for different projects and further growth could see them boost the local economy. Mighty Box has turned amazing art and innovative games into business. ♡

Top to bottom: Screenshots from *Posthuman Sanctuary*, *Will Love Tear Us Apart?* and the board game *Posthuman*.



The heating of biological tissue by the application of high frequency electromagnetic fields. This process can ablate or burn the tissue. This is a minimally invasive approach that can be used as part of cancer treatments (for example, microwave ablation of solid tumours).

A healthy microwave

Lars Lorenz interviews **Prof. Charles V. Sammut** to find out about his research and how microwaves can be used in healthcare.

When people think about microwaves, they normally think about their microwave ovens, but these waves can be used for much more than heating up food. Prof. Charles V. Sammut and his Electromagnetics Research Group (EMRG) at the Faculty of Science, University of Malta, are conducting research on how those same waves can be developed for medical applications.

The lab is fitted out with state-of-the-art equipment. The EMRG uses a Vector Network Analyser and special probes to see how tissue reacts to electromagnetic fields (their dielectric

properties) like those used by mobile phones and microwave ovens. The technology is especially helpful in diagnosing and treating cancer. The tumour can be identified through imaging or burnt away using hyperthermia. While imaging technologies using microwaves are still at an experimental stage, microwave and radio frequency hyperthermia are already in use in some European medical centres.

The technology is still in its infancy and needs further experimentation before it will be ready for public release. The findings can then be used to manufacture medical devices that will benefit people all over the world. 🍌



BUILDINGS & SPACES

a vision in stone

During the last ten years, four new faculties, several new institutes and centres, and a school have been created. Twenty-first century demands have required great changes at the University of Malta. **Patricia Camilleri** meets the protagonists behind them.

The Rector, Prof. Juanito Camilleri, had a dream about the future direction of the University of Malta (UoM) that he outlined in the publication *2020 Vision or Optical Illusion*. The document is full of strategy plans to transform the UoM, a vision whose fruit is being seen today. This article looks at some of the transformations that have turned ideas into reality.

The first section regards the creation of four new faculties and the substantial realignment of another. The second talks about the formation of several new institutes, centres, and a school, which reflect that interdisciplinarity that seems to be the hallmark of a dynamic, forward-looking university today.



THE FACULTIES

A HEALTHY PROFESSION

The Faculty of Health Sciences was born out of the Institute of Healthcare (IHC) which started up in the early 1990s to put nursing and other associated health care areas on a professional footing. Eventually, in 2010, the IHC became one of the first new faculties to be created under Prof. Camilleri's rectorship and included ten departments. The IHC always had a very close relationship with the government's Department of Health but the creation of the Faculty drew it more within the University's structures. The new Sir Anthony Mamo Oncology Centre (SAMOC, Mater Dei Hospital) catalysed the recent creation of a new department and area of study. The Department of Medical Physics was set up with its graduate students sent to train in the UK. SAMOC needed radiotherapists, who are now trained by the Department of Radiography through the Radiotherapy course with

students sent to Wales for part of their training. Both opportunities are partly financed by the government.

The Faculty cares for the country's health. It trains the nation's dieticians and nutritionists (Department of Food Studies), both popular professions and necessary on islands ranking very high on the obesity index, such as Malta. Apart from the body, the mind has now been given more importance thanks to the setting up of a Mental Health Department.

'Research is booming,' says the Dean, Prof. Angela Xuereb with pride. Some 76 research articles have been published this year, while research student numbers have increased to 27 masters and 17 doctoral students, with the *Malta Journal of Health Sciences* also having been launched in April 2014. The Faculty has succeeded in applying for, and receiving, millions of euro in EU funding. 'Being a faculty has made things possible and [...] has led to [the achievement of] concrete results,' says Prof. Xuereb.

CONCRETELY INNOVATIVE

The UoM's star building is the new Faculty of Information and Communication Technology (ICT). The Board of IT, set up in 1994, sat between the Faculties of Science and Engineering and in 2007 the Faculty of ICT was launched, but it quickly outgrew its original home and a new venue was proposed (see pg 86 for more).

The EU-funded building cost €17million. 'It is a great space,' says its Dean, Prof. Ernest Cachia, 'which has changed the whole ethos of the faculty.' The Faculty of ICT is designed to provide places for students and staff to meet up, as well as hot-desking areas for postgraduates, and new computer laboratories. All these pros lead to more students applying for courses, and more EU-funded research projects.

The new building has impressed industry and is being used as a venue to launch innovative products while ▶



These academics research the essence of human existence: [...] the research is diverse but also positive, from building resilience in schoolchildren to exploring sexual health.

collaborating on research projects. Collaborative research projects help train the next generation of employees. 'Most students have a job even before they finish the course,' says Cachia ruefully. 'Priority is given to creating and maintaining a faculty with a soul [...]. What we are looking to do is to motivate our students to stay versatile and to become sought-after employees, creative innovators, or better still, employers.'

FROM ICT TO WELLBEING

One of the most challenging faculties to bring together was the Faculty of Social Wellbeing. When the discussions about this new Faculty began many declared an emphatic 'Forget it! It is not going to work!' They were proved wrong. The Faculty's Dean, Prof. Maureen Cole, appears the epitome of calm and composure but

even she admits moments of doubt.

Since then, wellbeing has become a buzzword which, says the Dean, 'indicates a holistic and non-pathologising approach.' These academics research the essence of human existence: gender, criminology, psychology, social policy and social work, counselling, youth and community, gerontology, the family, and disability. The research is diverse but also positive, from building resilience in schoolchildren to exploring sexual health.

The Dean would like the Faculty to be housed in one building. 'I think this is our biggest challenge at present—keeping us all united.' The new home is planned but still *in fieri*. To overcome this, Cole has instituted several measures to help keep the Faculty together. She introduced committees for strategic planning and community engagement, seminars,

research scholarships, awards, and publications—a slew of activities to encourage the departments to work together, especially to contribute to Maltese communities.

THE MEDIA AND SO MUCH MORE

Another new faculty arose from the Centre for Communication Technology. By the mid-noughties the number of students enrolling in the Centre was too big to handle. A solution was needed. In 2011 the Faculty of Media and Knowledge Sciences was born, incorporating the Departments of Cognitive Science, Corporate Communication, Digital Arts, Library Information and Archive Sciences, Media and Communications, and Information Policy and Governance. A Faculty for Media and Knowledge Sciences was a first in Europe. The diverse departments are 'all linked to the creation and dissemination of knowledge—how knowledge is shared and stored, and how we process information, including through digital arts,' points out Dean Prof. Noellie Brockdorff. The Faculty had to be rebuilt from the inside out, with two new floors added. The attention paid to detail was incredible: staff oversaw the design, colour schemes, furniture, and the building's functionality. Because of the new facilities, the Faculty recently attracted €1.2 million in EU funding—a good return on investment.

Brockdorff emphasises human interaction. She would like to create hot-desking facilities for postdoctoral researchers and places where postgraduates and academics can mingle as she thinks it helps develop a sense of belonging and sharing of ideas. Brockdorff is pushing her Faculty to develop more Master degree courses and to increase doctoral student numbers—their first graduated last December.



Foyer of the building housing the Faculty for Media and Knowledge Sciences.
Photo by www.iCreatemotionStudio.com

NOT JUST A NAME CHANGE

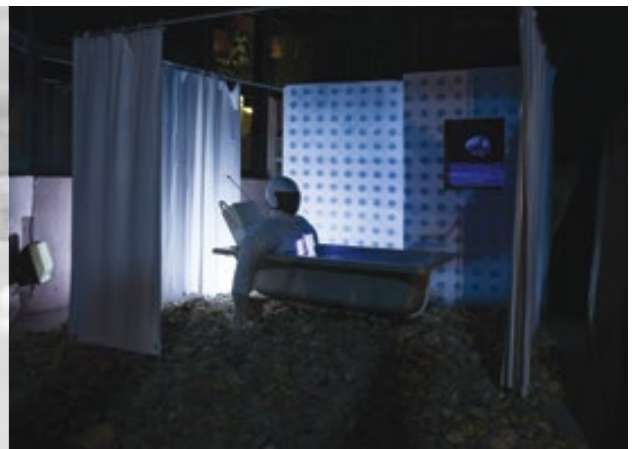
Some eight years ago, when Prof. Alex Torpiano became Dean of the Faculty of Architecture and Civil Engineering, about 60 to 70 students were graduating each year. When he joined, the Faculty evaluated itself to see what it needed to offer students in the 21st century. Because of these changes, now hundreds graduate every year. 'It was decided,' the Dean recalls, 'that we should encourage students to look beyond architecture and civil engineering [...] and increase the content of each discipline.' With the 2008 restructuring plan it became clear to Torpiano that the name of

the Faculty itself limited their scope. Planning was becoming more important, conservation as well. The Faculty was reinvented as the Faculty for the Built Environment, even though this name was not immediately accepted. There are now seven departments, ranging from Conservation and Built Heritage to Construction and Property Management and the Visual Arts. At present, the students are going through the first six-year cycle that ends with a two-year Master degree. Torpiano is convinced that the flexibility of the course will offer the widest possible choices in an area that needs diverse skills and knowledge. Not every student starting the course

will necessarily wish to become a warranted architect but if a student decides to stop at any stage they will still have a valuable qualification.

CHANGING COURSE

Within the Faculty of Laws, as from October 2016, the Diploma of Notary Public and the Doctor of Laws courses will be replaced with Master courses in the respective subjects. After successfully completing a four-year Bachelor degree in Law, students may opt for one of these postgraduate courses on track for professional entry for notaries or advocates. Other postgraduate specialisations up to Ph.D. level degrees will now also be offered. Similarly, teacher education has recently undergone a reform in Malta. The Faculty of Education has introduced a two-year Master in Teaching & Learning (MTL). This course replaces the previous teaching routes, which included a first-cycle degree or a Post Graduate Certificate in Education. On completion of this Master degree, graduates can teach at Primary and Secondary level and are fully qualified in the pedagogical content knowledge of their area of specialisation. Studies have shown that teachers' professional preparation is key in the improvement of educational standards. The MTL course will open for the first time in October 2016. ➤



Left: Cast sculpture houses by the Diploma in Design Foundations Exhibition. Right: Art installation by Lisa Spiteri and Andrew Darmanin as exhibited in FLOAT (2015). Photos by Mark Casha.

INSTITUTES, CENTRES, AND A SCHOOL

The UoM offers undergraduate degrees in most subjects to fulfill the basic needs of the country. On the other hand, through its institutes, centres, and schools, it tries to offer specialised postgraduate degrees in areas of local or world-importance.

LET'S GAME

Apart from pushing for new faculties, the Rector emphasised innovation through specialised institutes and centres. Take digital games, for instance: Prof. Gordon Calleja moved from the world-leading IT-University of Copenhagen, along with a number of other researchers, to set up the Institute of Digital Games in Malta. Practically overnight, Malta became a hub for digital game research in areas ranging from games that adapt to their players, to games that can make games, to game philosophy and art.

The Institute offers a Master degree in Digital Games, which has two streams, a technological stream and a more humanities-leaning stream so that undergraduates in practically any

subject—and with a love for the virtual world—can find a place on the course. Both teaching and research take place at the Institute as well as in other University areas such as the Department of English, the School of Performing Arts, ICT, and Engineering. Even some medics come down from Mater Dei Hospital to train at the Institute.

'Projects and outreach efforts enrich the Institute with new talent, new ideas,' says Calleja. The professor feels the games industry in Malta needs to be homegrown by smaller companies. This system is more difficult initially but more sustainable in the long run. Larger companies tend to come and go depending on what benefits the company as a whole. Locally grown companies are more loyal. As Calleja puts it, 'we need stickiness and an international reputation. This leads to more students, better incubation, further funding, and with a strong reputation we can start to advise on policy.' The Institute also makes sure it is visible wherever possible, participating in career fairs, the Science in the City science and arts festival,

the *Notte Bianca* cultural festival, to name a few. The Institute has also introduced Malta to indie games, creating a community around them.

The Institute's biggest activity is the Malta Global Game Jam, the local chapter for a creative event where participants team up to make a playable game in 48 hours. The event has brought people from all over the world to Malta to participate.

TOURISM CULTURE

The Game Jam is one way through which Malta attracts tourists but the University has other channels through which it does so. In 2010, the Institute for Tourism, Travel and Culture was established due to the sector's importance to Malta's economy at around 25% of GDP (data taken from *The Contribution of the Tourism Industry to the Maltese Economy* report prepared by E-Cubed Consultants, March 2015). The Institute's Director, Prof. Andrew Jones says, 'we are a small entity but we certainly punch above our weight.' The ITTC provides undergraduate and postgraduate courses, and participates in EU projects—all with a staff of seven. Jones saw the need for a good strategy plan to give the institute direction. The analysis enabled the ITTC to move forward in the appropriate areas. Together with the School of Performing Arts, they developed a joint Master degree in Event Management.

'Internationally,' Jones points out, 'the University of Glasgow is interested in leading an EU programme to develop a joint Master degree in Sustainable Cultural Tourism. 'What we need to do,' says Jones, 'is to look at what we do and then try to do it more cleverly.' This is because the Institute has limited financial and human resources. 'The UK



Malta Global Game Jam 2015.

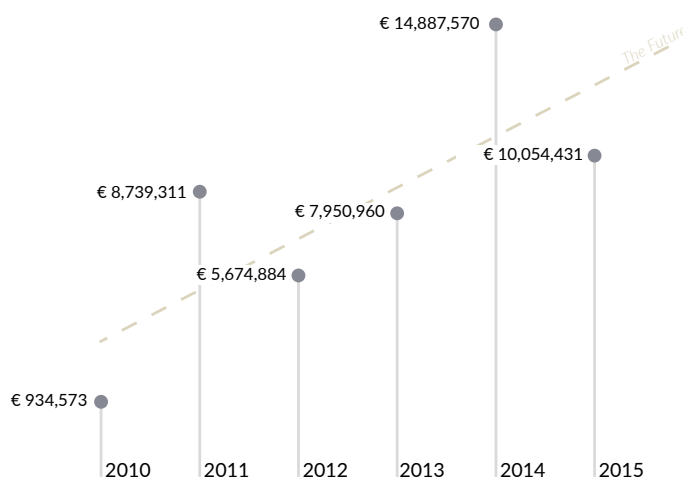
tertiary institutions have a commercial goal, which necessitates collaboration courses which are meaningful and robust. We need to do the same and get more collaborators on board.'

BIONIC HUMAN

In 2011, electronics engineer Prof. Ing. Kenneth Camilleri set up the Centre for Biomedical Cybernetics, fusing the subjects of engineering, ICT, natural sciences, medicine, and health sciences. The Centre brings all these disciplines together with the latest technology in an applied way. Cybernetics is the science of communications and automated systems in both machines and living things. 'So if there is a data collector and data processing,' comments Camilleri, 'cybernetics is there.'

The Centre's research links humans and machines. Many of its projects focus on human health. With electronics measuring brain activity and computers interpreting this information to carry out actions like moving a cursor on a screen simply by looking at different parts of the screen, or moving a wheelchair by thinking about it—the possibilities are endless. By working with doctors, the Centre is looking into identifying diabetes by heat sensors alone. This Centre's aim is to develop cheap automated alternatives to high-end technology using clever algorithms in order to enable those who have some form of disability. Apart from this dream, Camilleri envisions a new type of academic: a new breed who fuses clinical expertise with engineering skills. 'This [goal] will inevitably [be achieved] with the kind of sophistication built into today's equipment.' Towards this aim, the Centre offers an M.Sc. in Cybernetics

ERDF & ESF Funds since 2010



Values are presented according to their end date. Some grants are pending closure but are correct at the time of publication.

and is developing postgraduate research programmes. Camilleri wants physicians, engineers, and other academics to collaborate in resolving the challenges of today's society.

POWERING THE FUTURE

A major challenge is developing clean energy sources. To advance these solutions, the Institute for Sustainable Energy was recently consolidated off-campus in the Island's south. Lack of equipment had previously held back its research. Four years ago, Institute Director Prof. Luciano Mulé Stagno, sought funding for a solar research lab. The resulting €5 million EU, ERDF funding helped transform the Institute into one of the best-equipped labs in Europe. Microscopes, furnaces, wet testing facilities, and other equipment are now attracting international attention.

Mulé Stagno is eager to develop international collaborations. 'Cutting edge research projects will

probably come from overseas,' but he hopes local companies will also benefit. Thinking ahead, he aims to create a nucleus of sustainable energy leaders by collaborating with architects and scientists. 'The ultimate goal is the analysis of research materials in sustainable energy: wind, bio fuels, and transport.' The wheel has started to turn; now it needs to be pushed down the hill.

A CHANGING WORLD

Another world problem is human-caused climate change. To solve this issue the Institute for Climate Change and Sustainable Development was set up. As a group of islands in the centre of the Mediterranean, climate change and the accompanying sea level rise are pertinent issues for the Maltese Islands. The Institute brings together researchers from many different disciplines to look into the social change that climate change will bring. ➔

Sustainable development is a worldwide goal. Institute Director Prof. Maria Attard realised that her limited team could not tackle these major world problems head-on so she homed in on key issues in Malta: transport and sustainable mobility. Malta suffers from heavy traffic: the largest pollution source. Owing to her efforts, Malta is now involved in major networks, with international research collaborations hosting conferences in sustainable transport and climate change.

FLYING HIGH

One of the most significant transport polluters are airplanes. Malta is involved, through the Institute of Aerospace Technologies (led by Director, Prof. Ing. David Zammit Mangion), in the largest studies ever conducted to minimise aviation pollution. The research is EU funded and brings together industry partners, research centres, and other

universities. Apart from research into the highest environmental standards, the Institute aims to focus on avionics, flight operations, flight simulation, aerospace systems and other special areas based on three pillars: teaching, research, and national matters.

REACHING FOR THE STARS

An alternative form of transport is space travel. Even a small country like Malta has space ambitions. Prof. Kristian Zarb Adami dreamed big, and was responsible for the setting up of a Space Sciences and Astronomy Institute [ISSA] at the UoM in 2014. This Institute brings physicists, engineers, and ICT specialists together. Engineer Dr Alessio Magro leads the biggest project that ISSA is working on: the Square Kilometre Array [SKA] sees thousands of telescopes being built in South Africa with parts of the project in Australia to create a globally connected telescope.

ISSA is involved in designing the antennas and the digital processing systems needed to crunch the massive data produced by SKA.

'The project is an international collaboration,' says cosmologist Dr Jackson Levi Said (also part of ISSA), 'but dedicated meetings and international conferences are not enough. You really need to have a solid base on campus where you are talking to your colleagues face to face.' Magro expands on this, noting that 'at ISSA we have a Ph.D. student who read Biology and Chemistry but he is passionate about the subject and is prepared to extend his skills set. ISSA will give him access to diverse areas. A problem-solving aptitude is probably our students' key skill.'

Apart from the SKA, ISSA runs Master and other postgraduate research. Magro's work in radio astronomy has also attracted interest from the Italian army and several commercial companies. Said strongly believes in engaging the public and inspiring the next generation of physicists by regularly visiting schools with his students and colleagues. He has even built a mock satellite in



The Square Kilometre Array (SKA) – malta.skatelescope.org

Prof. Kristian Zarb Adami [...] was responsible for the setting up of a Space Sciences and Astronomy Institute in 2014.

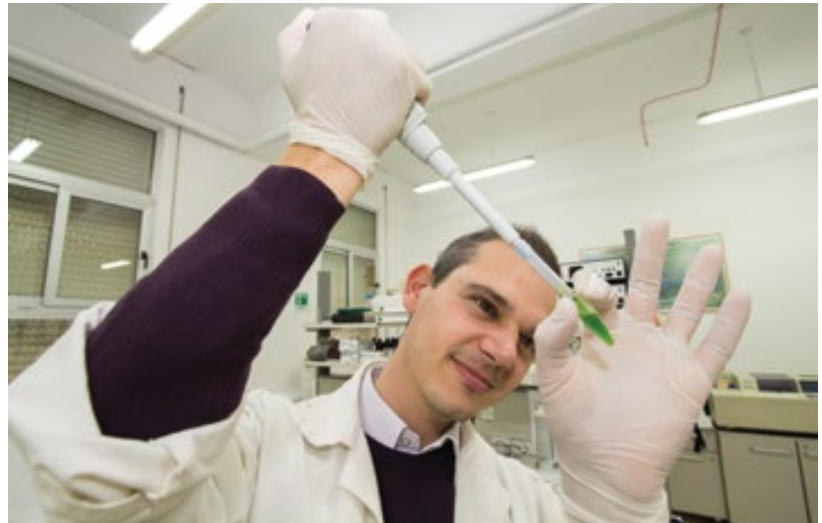
the heart of Malta's capital, Valletta, for the Science in the City festival.

MAPPING THE MALTESE GENOME

Biobanking is another unexpected field in which Malta is involved. Biobanks store human samples and tissue for research. Since the 1990s, the UoM has had a biobank in which the core blood from all babies born in Malta is kept and stored. This means that the University has access to the DNA of all babies born in Malta for the past 20 years. The biobank has tens of thousands of other samples, a treasure trove of genetic data but also a great responsibility to manage it all for the social good. Stemming from this research, Malta has now sequenced dozens of people and is compiling a Maltese reference genome to be able to know every single gene in the Maltese population and to see whether it differs from nearby regions.

Following on from this, the Centre for Molecular Medicine and Biobanking was set up in 2016. The large volume of researchers took 20 years to nurture. 'These situations don't just 'happen,'" says Prof. Richard Muscat (Pro-Rector for Research), 'they have to be engineered and coupled to a vision.' The Centre will house leading researchers in new state-of-the-art laboratories, some of whom have published in world-leading journals such as *Nature Genetics*. The Centre was built using €4.2 million self-generated funds.

'Looking towards the future,' says Muscat, 'we need to translate this research into practical solutions. Medics need to be trained in



Above: Dr Joseph Borg. Photo by Dr Edward Duca.
Below: The Malta Biobank. Photo by Elisa von Brockdorff

basic sciences and research to use their knowledge from both fields to help their patients.' Such work requires patience due to the complexity of the human body and the time needed to develop this research into new therapies.

CULTIVATING RESILIENCE

Apart from the human body, the human mind needs strength. In 2009

the Centre for Resilience and Socio-Emotional Health was setup to focus on research projects that inform evidence-based practice into the resilience, and social and emotional health of children and youths. The Centre brings experts from education to social science together to address Malta's needs while publishing in international fora. Towards this end it serves as a base for ENSEC, a European network for researchers ▶

and practitioners working in the area of social and emotional competence. Careers also need certain resilience. One key skill is the English language. In 2012 the UoM setup the Centre for English Language Proficiency (CELP) together with the Department of English to meet this need. English serves a crucial role in education. The Centre helps international and Maltese students develop their writing and oral skills thus empowering them to become autonomous learners. Through practice and tuition their competence in writing and presenting English will increase. English has a distinct role in our society; it is part of our identity but also our passport to the rest of the world.

THE PERFORMING ARTS AND BEYOND

The School of Performing Arts [SPA] emerged from the Theatre and Music divisions and the Dance Programme (previously part of the Mediterranean Institute). An important target has been the School's interdepartmental and interdisciplinary interaction. This has engendered a dynamic and motivated group of academics who are all deeply involved with the School's running and initiatives.

'The School,' says Chairperson Prof. Vicki Ann Cremona, 'aims to create graduates who are well grounded in theory and practice, but who are versatile enough to work in different art-related fields.' The School's graduates work in teacher-training, cultural management, and as performance technicians, to name a few. Several graduates hold decision-making positions within the cultural field.

The School maintains visibility through its intense programme of international conferences, symposia, workshops, and seminars. It has



School of Performing Arts performance. Photo by John Grech

created a collective performance involving its three departments, which also organise a theatre festival, concerts, and an international dance tour. Its outreach programme provides lifelong learning possibilities for other sectors of the public. To this end it has created programmes, like scriptwriting, in collaboration with the Arts Council Malta and the creativity centre *Spazju Kreattiv*. SPA's biggest hurdle is adequate space, facilities, and equipment for the three departments. The fact that the departments are not housed under one roof is a big disadvantage because it blocks closer collaboration. Studio space

and properly equipped music rooms are also lacking. There are plans for a school housed at the heart of the University, though finances are an issue.

LOOKING TO THE FUTURE

The plans laid out in *2020 Vision or Optical Illusion* were far-reaching and ambitious. Not everything has been achieved but plenty has been accomplished. The breadth of vision does not simply refer to the bricks and mortar but to the mentality of staff and students: consolidating a solid past with a freedom to experiment towards an innovative future. ♥



university reborn

*'To improve is to change; to be perfect is to change often,' said Winston Churchill. Similarly, the University of Malta has needed to refurbish and build new faculties, institutes, centres, and laboratories. **Patricia Camilleri** finds out more.*

Valletta Campus. Photo by Elisa von Brockdorff

Perit Christopher Spiteri sits at his desk surrounded by plans and photos of works in progress and projects which have come to fruition. 'A Master Plan,' he tells me, 'was developed in 2006 and priority projects were identified at this initial stage.' The two largest were the IT Services and Faculty of ICT buildings, both requiring substantial EU funds.

Through local funds, the Biomedical Sciences floors were added to the Faculty of Medicine and Surgery building and will be opened shortly, equipped with the latest technology. The Faculty of Media and Knowledge Sciences was completely overhauled. Originally, the Centre for Communication Technology, it was extended with two new floors and the rebuilding of the lower part of the structure. Office and lab space is at a premium at the University of Malta (UoM). All these projects are trying to change that.

The library is a beating heart for any university. But this needs the right policies. One of Prof. Juanito Camilleri's first actions as rector in 2006 was to push for a three-tier 'noise' system and far-extended opening times. The Reference Library has a 'no tolerance' attitude to noise, the top floor is a semi-silent area, while the middle level has tables and beanbags for group work. The more relaxed approach has worked and library staff more likely now have to push students out of the door at closing time.

This upgraded customer-oriented and service-driven approach has reaped dividends, but other quiet advances happened in the last decade. The library drastically expanded its online resources (an annual recurrent expenditure of almost €2 million) to include several top academic publishers to meet UoM student, staff, and researchers needs. The library also set up an Electronic Theses and Dissertations (ETDs) project providing access to over 5,000 UoM research documents. In 2015, it launched the first Institutional Repository (IR) on the Maltese Islands, called OAR@UoM, in order to provide a platform for Open Access (OA) research. The UoM is committed to making research more available to everyone. To make it easier to find this research a HyDi system provides a one-stop solution for users to search through all databases.

Another issue is electricity wastage. It might not seem like a university's first concern but reining in running costs is the only way a university funded through public money can grow and remain free for the majority of students. A large EU-funded project covered UoM building roofs with solar panels and had lighting upgraded to the latest energy-saving technology. Millions of euro were saved. The Library was no exception, with windows replaced with double-glazing, a complete revamp of the air conditioning system, and the building covered by a stainless steel screen. ▶



The Valletta Campus restoration was undertaken with local funds and is a very important project given that Valletta will be the European Capital of Culture in 2018.

Research needs to be built on the shoulders of others' work. So the Library focused on online research services. Online journal numbers have grown exponentially with hundreds of thousands of euro invested to

support research. Library staff now provide training to all staff and students, with electronic reminders keeping book loans in check.

Other changes on the Msida campus involved the refurbishment of the Arts Lecture Theatre, in collaboration with IT Services, to include the latest teaching technologies. Also, recently opened, is the Centre for Traditional Chinese Medicine which will complement the University's new degree course in Traditional Chinese Medicine and Culture.

VALLETTA CAMPUS

A few years ago, the government returned the last remaining parts of the Valletta Campus—a sixteenth-century Jesuit college—to the University and the Rector launched a major refurbishment process. The college's upper floors (post-war additions) have been transformed into state-of-the-art lecture rooms for the University's International Collaborative Programmes—an initiative that sees Malta work with institutions like King's College London, James Madison University (USA), George Mason University (USA), and others.

'The challenge,' says Spiteri, 'was to make the newer parts of the



Top: Students celebrate graduating at the Valletta Campus. Photo by www.iCreatemotionStudio.com
Bottom: IT Services, Msida Campus. Photo by Jean Claude Vancell



Left and top: The University Library. Photos by Jean Claude Vancell and Elisa von Brockdorff. Bottom right: The newly refurbished Arts Lecture Theatre. Photo by www.iCreatemotionStudio.com

ancient building look authentic while at the same time using emerging technologies both for the newer and for the sixteenth-century floors.' For example, a glass panoramic lift was installed. Spiteri sought advice from the Valletta Waterfront project engineers who had faced the same issues. The lower floor was returned to its original shape to give better access and light. The corridor which used to hold the old Lyceum now houses the latest conference breakout rooms and lecture halls encased in the splendid, original architecture. Other changes include transforming the Library, now named after the anthropologist, Prof. Sir J.R. Goody following the donation of his book collection. The former Mediterranean Institute Theatre Programme (MITP) has been renovated into the University Theatre for the School of Performing Arts.

The Valletta Campus restoration was undertaken with local funds and

is a very important project given that Valletta will be the European Capital of Culture in 2018. Also, in collaboration with the government restoration unit, work has started on repairs to the University Church and the façades of the building as well as the internal courtyard. This will have a retractable canopy so that maximum use can be made of this magnificent space.

New research facilities are also being finalised off campus. The Institute for Sustainable Energy in the south of the Island, recently completed, is equipped with the latest labs and sophisticated materials made possible through an EU grant of over €4 million. The Gozo Campus has also been embellished while funds are being sought for an extension, and studio flats for Ph.D. and postdoctoral students.

Also on the cards are the new sports facilities back at the main Msida Campus. They include an artificial turf sports ground surrounded by

an athletics track. Clinics and other sports-related areas are planned for underneath the spectator terraces, which will provide a space for athletes getting ready before a game or race and for students studying sports at the University's Institute for Physical Education and Sport.

The UoM also runs the Ġ.F. Abela Junior College, which prepares fifteen- to eighteen-year-olds before they enter university. The building was recently refurbished with a new auditorium, extra floors, a childcare centre, an artificial football pitch, and a home economics lab. Refurbishment, which started last year, involves energy-saving measures with upgrades to several labs.

'The challenges,' says Perit Spiteri, 'are numerous, but all the UoM campuses and associated areas have been upgraded and embellished to make them fit for their contemporary purpose—but, of course, the work continues.' ♥



Left to right, top to bottom: 1. New terrace beneath Atriju Vassalli, 2. the proposed Research Incubator Building, 3. Prof. Alex Torpiano, 4. and 5. The proposed Sustainable Living Complex and 6. The new Medical School .

Campus 3.0

*Success begins with a vision. The Master Plan will guide the University's infrastructural development for years to come. The plan will transform University into a test bed for cutting-edge building technologies and a prototype future town. **Natasha Padfield** speaks to **Prof. Alex Torpiano**, who has spearheaded this project from its conception, to find out more.*

The University of Malta (UoM), like many towns, has outgrown its current infrastructure. The UoM's infrastructural vision—the Master Plan—began due to the need to re-house the Faculty for the Built Environment but developed into a venture that aims to accommodate the needs of a modern, thriving, 24/7 campus. The venture is trying to decentralise the campus from its heart, the Quadrangle. This high-level plan gives structure to existing projects and provides a direction for future investment and infrastructure projects.

The Master Plan is a giant experiment. All research, designs, and planning were carried out within the University by a team of newly graduated architects, under the guidance of Torpiano. He admits, 'the rector took a gamble with me

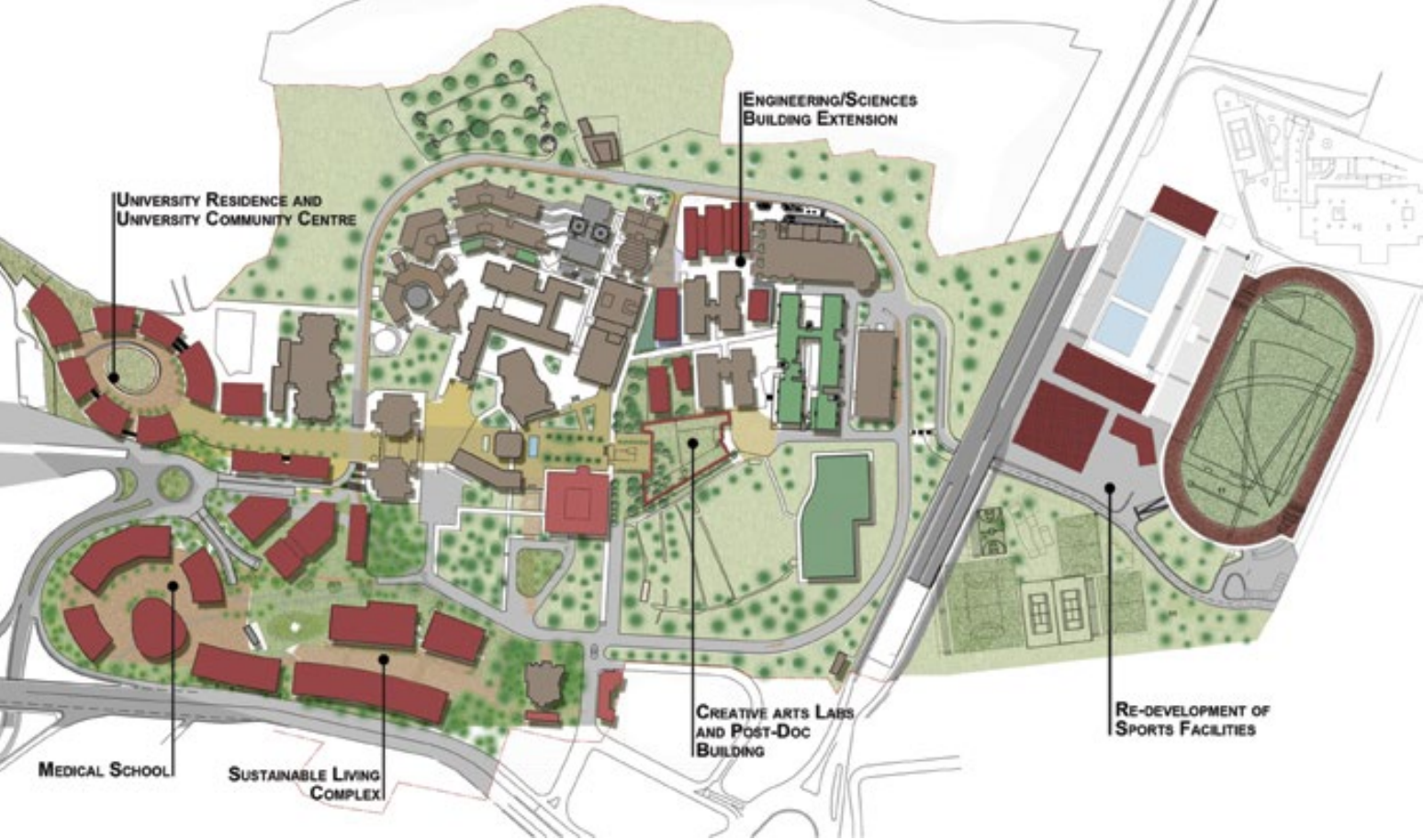
on this [...] but it worked out well. The quality of the project was very high and we had to get planning permission for the Sustainable Living Complex—the main new building. Now we're waiting for funding.'

Prototyping plays a key role in the Master Plan. Torpiano explains how, 'we are going to try to explore several things. The plan is very ambitious with many layers'. The Sustainable Living Complex will be a test bed of building techniques. Housing the Faculty for the Built Environment, it

The rector took a gamble with me on this... but it worked very well.

will comprise lecture halls, offices, and studios. Smart building technologies will bring the structure to life. These systems use sensors to monitor environmental characteristics such as temperature, humidity, movement, and light. The large volumes of data generated can be put to a number of uses: from evaluating the efficiency of an air conditioning system to studying occupant behaviour. The complex will test new technologies related to solar power, heating, ventilation, and water management facilities. The technology will include sensors that will help researchers understand how they are used in the real world. The complex will be a living, breathing laboratory.

The design for the Master Plan will breathe fresh air into campus by promoting an open environment with walkways and glass façades which will allow passers-by to peer into ▶



faculty life. Stone excavated during redevelopment will be used to fashion clean, modern façades. This will form part of a research project in stone engineering. Rooftop gardens will reduce the site's carbon footprint, while improving landscaping and insulation. The Quadrangle will be extended into a series of landscaped terraces. Beneath the terraces, halls housing the School of Performing Arts will buzz with activity. The heart of the UoM will become a pedestrian boulevard leading from the residential complex, through the quad and down to the sports complex. 'This plan is going to change campus dynamics,' Torpiano highlights.

Traffic is tackled head-on in the Master Plan. A group of Master students drew up a traffic management scheme after rigorously investigating congestion and parking issues. They suggest doing away with allowing cars to park on the ring road as well as having open car parks, and replacing these with underground parking lots. The scheme also incorporates Intelligent Transport Systems, which can inform drivers where to park and

whether a car park is full. This would ease traffic flow and remove the eyesore of the numerous car parks littered around campus. The plan also sees former car parks converted into landscaped gardens and social spaces, and pedestrian access and public transport hubs given priority. Vehicle access would be shifted to an underground road network, improving the quality of life on campus.

Also on the table is a residential and commercial complex. Accommodating up to 800 beds, the complex would play a key role in University life. It would be a social space boasting cafés and restaurants. Land has already been acquired for its development and this public-private venture is about to start.

We are going to try to explore a large number of things. The plan is very ambitious.

The Master Plan is a collaborative project, uniting various professionals. For example, the Sustainable Living Complex is the result of a joint effort between the Faculty for the Built Environment, the Faculty of Education, Institute of Earth Systems, Institute of Sustainable Energy, and the Institute for Climate Change and Sustainable Development. The University Residence and Community Complex will provide accommodation for students on campus (a first for Malta), a childcare centre, a wine bar, and retail/entertainment outlets, underground parking, and will deploy the latest energy conservation concepts. Meanwhile, IT Services and the Faculty of Education are helping to craft the lecture halls of the future. Essentially, the Master Plan aims to develop a set of guiding principles for everything from traffic and water management to lecture hall design. New building designs can then latch onto these guidelines.

The project is gaining momentum. The Master Plan has been met positively by the outgoing rector,



A render of the new Sustainable Living complex.

Prof. Juanito Camilleri (who was key to its inception), the Council, and Cabinet. While the Sustainable Living Complex is awaiting European funding, under construction are the new Metallurgy and Materials labs within the Faculty of Engineering, as well as the post-doctoral research facilities. A new sports complex is being planned with artificial turf sports grounds surrounded by an athletics track—all to support an active university that will participate hand in hand with clinics and athlete services

for students studying sports at its Institute for Physical Education and Sport. Other projects await planning permission or remain in the pipeline.

What is the biggest challenge the project will be facing? 'You have to do the first bit well. To me that is the biggest challenge,' Torpiano underlines. Now, as it happens, the initial phase will probably be the most ambitious part: the Sustainable Living Complex. 'It will be challenging to co-ordinate. I think if we manage that part, the rest will be easier.' Torpiano believes the solution

lies in breaking complex problems into manageable chunks, in climbing the mountain one step at a time.

Success begins with a vision. The Master Plan's proposed capital investments will bring returns for decades to come. If implemented, it could craft a new environment in which academic excellence and student life can flourish side by side. The team behind the plan continues to plough forward with determination and ingenuity. The future is bright, and it is being built today. 🍷



A cross-section view of the new terrace proposed beneath Atriju Vassalli, housing a car park, lecture rooms and spaces for the School of Performing Arts.

An aerial photograph of a city, likely Malta, showing a dense urban landscape with various buildings, roads, and green spaces. A large, semi-transparent dark blue rectangle is overlaid on the center of the image, containing the main title in white text.

A time for TECHNOLOGY

Lars Lorenz talks to **Prof. Ernest Cachia** about the University of Malta's most high tech building.

The Faculty of ICT is an engineering marvel. At its core are 26 blade servers that do the heavy lifting by number crunching research requests from faculty staff, which include big data, real time analysis, spam filtering, cryptography, software engineering, and others. Blade servers are computers that can easily be slotted into a cupboard-sized housing. They all communicate and share data while being easily replaceable. The research never needs to stop; all requests can be handled immediately.

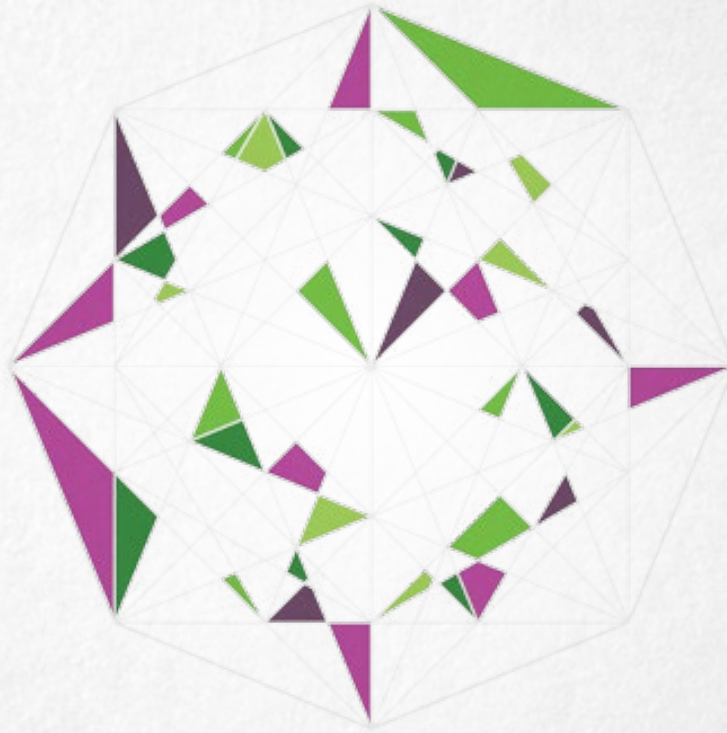
The building also boasts an advanced Building Management System, which controls temperature and airflow for all rooms apart from the servers (these have a separate dust free system). The building's roof (like several others at UoM) is covered in solar panels. But the building has

emergency systems for power and water that means it can run during a blackout at night.

The building and its equipment were bought from a €17.3 million ERDF received in 2013. The rest was financed by the Mediterranean Virtual University (MVU) EU project. Together with nine partners in the Mediterranean region, the University of Malta received four million Euro to equip laboratories, set up networks, and update equipment.

The latest equipment allows the Faculty of ICT, and the University of Malta, to play a relevant role in international research. Currently the Maltese government wants to create a regional hub for cloud computing, which directly feeds into the Maltese economy. The project will eventually attract businesses relying on this technology, increasing employment rates and revenue. 📈





**PUBLIC ENGAGEMENT
& OUTREACH**



John Cordina talks to director **Patricia Camilleri** and **Dr Edward Duca** (Communications and Alumni Relations Office) about how the University has reinvented the way it communicates its—and its researchers’—work to the public.



Shots from Science in the City 2015. Photos by www.iCreatemotionStudio.com (top) and Elisa von Brockdorff (bottom)



Communicating effectively with the outside world is not always a priority for university institutions, but a failure to do so can have adverse effects, and the University of Malta (UoM) is no stranger to this.

The UoM's importance as an educational institution cannot be overstated. Malta's health structures, its education systems, and a whole lot more depend on people it has helped educate. However, this has helped fuel perceptions that the University is little more than a glorified school, that its academics focus solely on teaching, and that any research that might take place is inconsequential.

This is far from the truth, but the message was up until recently not reaching the public effectively. With this in mind, the Rector, Prof. Juanito Camilleri, pushed for the publication of a magazine focusing on research activity at the UoM. The

first issue, *Research Matters*, came out in December 2011. The second issue came out six months later, but by then despite the short lapse of time, the magazine was unrecognisable. The reason was that the UoM brought in two full-timers—editor Dr Edward Duca and graphic designer Jean Claude Vancell—to handle the publication. The new duo felt that the original magazine needed an overhaul to make it appeal to a wider audience. The magazine was reinvented, with Duca crediting US magazines *Wired* and *Scientific American* as inspiration. Accordingly, the new publication looked the part—'like a commercial magazine, one that you would buy,' in Duca's words—and given a catchier name: *Think*.

All that remained was for *Think* to be approved: 'the rector could have blocked it, and people [at the UoM] thought I could lose my job, because it was too big of a change... but you cannot introduce such a change step by step,' Duca recounts. As it turns

out, however, 'the rector loved it, and gave it his stamp of approval.' 'In fact,' Duca adds, 'I almost wish I received more feedback from him.'

Fifteen editions of *Think*—four issues a year—have since been published, and the response has been overwhelmingly positive. One concern, Duca observes, is that the magazine may look 'a bit too slick. We questioned whether this means that it makes it lose a degree of authenticity, but I believe it doesn't. It's just good design, not overly sensational or promotional [...], it makes you want to pick it up,' he says. 'This is what the University deserves, a high-end magazine that effectively communicates what it does.'

This does not mean, however, that there is no room for improvement. Boosting advertising revenue is a challenge, not least because the policy is to only accept adverts that are appropriate for a magazine of this nature, and this also limits, among other things, *Think's* ability to recruit ➤



freelancers. The magazine's distribution could also be more efficient: at present, Duca remarks, the magazine cannot be found 'in the waiting rooms of banks, clinics, and hospital: the places where people would want a magazine to read.'

BRINGING SCIENCE TO THE CITY

The first few months working at *Think* proved particularly hectic, not least because Duca was concurrently organising another public engagement activity: the first edition of *Science in the City*, Malta's science and arts festival which encompasses the EU's *European Researchers' Night*, which involves hundreds of events in cities across Europe dedicated to celebrating research.

As one can imagine, organising an event involving activities across Malta's 16th century capital city is no easy task. Currently, the organisation involves a core team of four, as well as an artistic consultant. A lot of the logistical arrangements are now outsourced, which was not the case the first time round. 'After that experience, we became cleverer, better at organising

things,' Duca notes. At present, planning typically begins as soon as the previous event finishes, and the team is now planning to start preparing two to three years in advance.

During the first edition, Duca estimated that 10,000 people would attend the event, although others were more sceptical, telling him that if 1,000 made it, he should be pleased. As it turns out, 12,000 people made it to Valletta that night, and since then, the crowds have nearly doubled.

The event has evolved from year to year, partly to provide crowds with a different experience each time, but also in response to feedback. After the first year, greater effort was placed on providing interactive events for the young, for instance: but this has led to calls for interactive events for older audiences, which, Duca notes, are a tricky prospect.

The biggest challenge, Duca observes, is achieving a balance between good art and good science. 'Sometimes you get good science but the art is lacking, or else you get good art that does not communicate science well,' he says. Funding is another challenge: the event benefits

from EU funds, but efforts to secure other sources of funding are ongoing.

Nevertheless, the event, as well as *Think*, are helping to address a gap in science communication, which is arguably key to ensuring that more people develop an interest in science as a career choice. But Duca also emphasises that a greater public understanding of science helps bring about an informed democracy.

The event has evolved from year to year, partly to provide crowds with a different experience each time, but also in response to feedback.



Photos by www.iCreatemotionStudio.com and [Elisa von Brockdorff](#)

THE UNIVERSITY'S NEWSROOM

While *Think* has revolutionised the way the UoM communicates its accomplishments, Patricia Camilleri (director, Communications and Alumni Relations Office) and her colleagues spotted the need to upgrade how it communicates to its staff and students. The recent launch of *Newspoint*, the University's news portal, seeks to do just that.

It is not the UoM's first such effort: it replaces the long-running *News on Campus*, which featured notices, events, and press releases issued by the University. In doing so, it was useful in letting staff and students know what was going on, but its age was increasingly showing, and it had become an information repository.

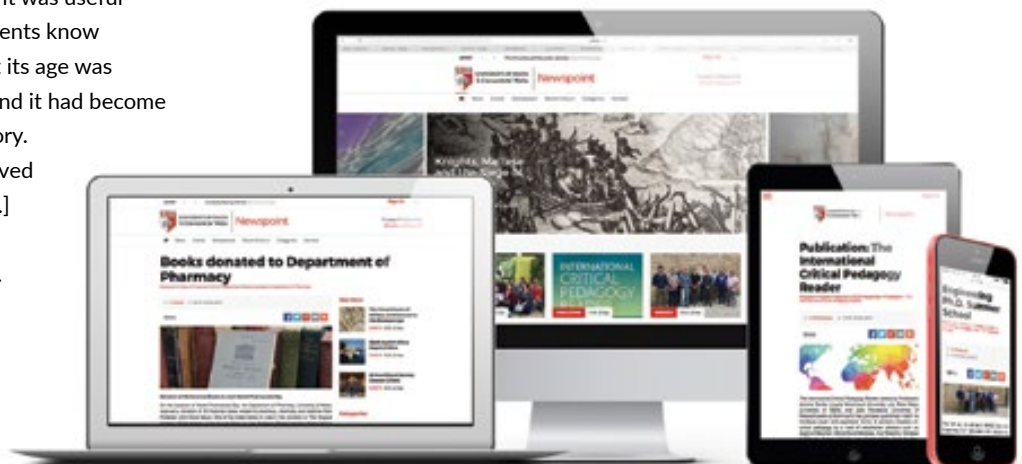
'*News on Campus* served a very good purpose [...] but everything has its shelf life,' she observes. 'We tried to make it as visually interesting as we could, within the website's limitations, but there came

the time for a change, not just in its look and feel, but also in its ethos [...] something that does not simply serve as a notice board, but a portal that people would wish to look into proactively.'

The inspiration for *Newspoint* was online news portals, rather than university websites. This vision is readily apparent when one looks at the redesigned website. Photography is given a greater priority than ever before, and videos are regularly published on the site: a videographer was taken on especially for this purpose. Updates are far more frequent, including an event page which is updated regularly.

But *Newspoint*, perhaps, is just the latest step forward in the way the University communicates. Technology has helped—for instance, it wasn't that long ago that students had to check notice boards for exam results—but Camilleri, who has worked at the UoM for 25 years, also points out that mindsets have changed.

'I remember back in 1991 going to a dean to ask for information, only for him to ask me "who wants it?"' *Think* and *Newspoint* are the clearest evidence that such attitudes have been consigned to the past; the future has been engaged. 🍀



Minding the University's business

John Cordina meets with MUHC CEO **Joe Azzopardi** to discuss the University's Holding Company.

It may be a public—and publicly-funded—university, but the University of Malta (UoM) has acquired a number of commercial interests over the years. These are grouped together under the Malta University Holding Company (MUHC), of which the size, scope, and profit is growing.

But until recently the situation was considerably different. The MUHC's focus was originally largely geared towards one project: the University Residence in Lija, which was opened in 1994 and which primarily hosted international students studying at the UoM. Its accommodation business was expanded in 2011 through the acquisition of the Hotel Kappara, a short walk from the University campus.

That was well and good, save for one consideration: it was not a profitable venture seeing as the group operated on a largely breakeven basis. CEO Joe Azzopardi, who joined the MUHC in 2012, explains that improving the financial performance of the University's business arm has now become a priority.

Key to achieving this objective has been the MUHC's endeavour to make the most out of its

accommodation facilities, which were previously heavily underutilised. When Azzopardi started out, the Lija residence's occupancy only averaged a modest 60%, while Hotel Kappara was virtually empty, with around just 20% of its rooms in use, but occupancy ratios have since increased to 85% and 72% respectively. The tennis courts and archery ranges at Lija are now also being rented out, and the residence is also being used to host private companies' team-building events.

At the same time, however, Azzopardi saw the need to diversify. He strove to expand its other interests, including the Malta University Language School—focused on profitable English language courses but which also runs Maltese, Japanese, and Arabic-language classes. The school has seen its business pick up after shifting operations from Junior College to the University Residence, which helped it offer package deals to foreign groups.

The MUHC has readily taken up opportunities offered by University, including the management of vending machines on campus and photography and videography services during graduation



ceremonies. Its portfolio includes training and consultancy services, the Campus FM radio station, and University-branded merchandise. All these initiatives—as well as a ‘constant effort’ to rationalise operational costs, as Azzopardi explains—have led to the MUHC registering a respectable profit before tax of €650,000 last year, with all indications pointing towards a similarly successful 2016. Gradual but consistent growth is key.

Azzopardi highlights another challenge that needed to be addressed: a seeming gulf between the MUHC and the UoM. He notes that ‘it seemed as if the two entities were ignoring each other.’ While still based at the Lija residence, the group has worked hard to reach out to the UoM, and as a result, is increasingly becoming ‘the first port of call for these quarters when UoM staff need help.’

Nevertheless, overlap between the two is kept to a minimum. For instance, while the MUHC does offer some training programmes, higher qualifications remain the UoM’s sole domain. And

while it offers commercial consultancy, it does not involve itself in collaborative research between industry and UoM researchers. The University remains its biggest client and patron, while also providing strategic directions, but the MUHC operates as any other commercial company would, striving to pay regular dividends to the University while not benefiting from public funds.

This increasing closeness between the MUHC and the UoM, which owns it, is to be cemented through an ambitious project which will see the group move its operations to the main campus grounds. The UoM is building a University Residence and Community Centre with hundreds of beds. This will supplant the Lija facility.

The planned residence will be operated by private enterprise, reducing the MUHC’s involvement but significantly increasing the potential of its other operations, a shift in line with Azzopardi’s ultimate goal, ‘to reach a stage when I can safely say that the MUHC does not depend on any one client, activity, or officer—myself included—to survive and grow.’

Photo by Jean Claude Yancell



BRIDGING GAPS

John Cordina talks to RIDT CEO **Wilfred Kenely**, **Prof. Nikolai Attard**, and **Dr JosAnn Cutajar** about the University of Malta's outreach efforts, and working with various sectors of the public in University research.

The University of Malta's contribution to society goes beyond educating thousands of students each year. The University is also a crucial part of the country's research infrastructure and socio-economic growth. But Maltese expenditure on research and innovation remains far below the EU average.

There has been progress, observes Wilfred Kenely (CEO, Research, Innovation and Development Trust, RIDT). The UoM's research portfolio has increased dramatically in recent years, and its research infrastructure has been boosted through the investment of millions of euros of mostly EU funds. Despite the investment, it is not enough. But, Kenely adds that this has created the need for new revenue streams, 'particularly streams coming from the community itself: industry, individuals, alumni, NGOs, and so on.'

The UoM established the research trust (RIDT) in 2011 specifically to

attract community funding, with the government allocating €500,000 in seed capital to set the ball rolling. The trust is an independent entity with the UoM as its sole beneficiary.

The trust, Kenely explains, encourages philanthropy and corporate social responsibility directed at research. It engages with various sectors of society through the organisation of various fundraising events and initiatives, such as concerts and festivals. Kenely encourages the investment in research in order for the problems of tomorrow to be solved, be they ICT solutions or debilitating diseases.

Universities across the world benefit from financial endowments—alumni are typical donors—but the concept is new to Malta, and persuading the public 'that research needs the support of the community' has been the biggest challenge' faced by the RIDT, according to Kenely.

Despite the hurdle 'we [the research trust] have managed, in a relatively

short time, to make significant breakthroughs [...] we have an ever-increasing number of donors who are supporting us in a wide range of subjects.' Since it was set up, the trust has brought in over €1 million in funds for UoM research, with NGOs alone donating over €200,000.

Among other things, this funding has helped finance three PhD scholarships—two in breast cancer research, funded by the Action for Breast Cancer Foundation, and one in climate change research—with a fourth one expected to start shortly. The LifeCycle Foundation is financing research into kidney disease, while the Malta Community Chest Fund is focusing on the genetics of osteoporosis—a bone-weakening disease.

The concept of community-funded research has taken root, though Kenely emphasises the need to build on this trend. 'What has been accomplished so far is only the beginning; there is a lot more that can be achieved.' ➤

Since it was set up, the trust has brought in over €1 million in funds for UoM research, with NGOs alone donating over €200,000.



A press conference by RIDT, Action for Breast Cancer Foundation and ALIVE Charity Foundation back in 2013.

THE TRAVELLING DENTISTS

The RIDT's most visible accomplishment is a dental clinic on wheels that has been touring the country since its launch last September. The mobile dental clinic is the brainchild of Prof. Nikolai Attard (Dean, Faculty of Dental Surgery, UoM), who collaborated closely with paediatric dentist Gabriella Gatt on the project.

In 2012, RIDT helped attract funders but a ready-made mobile clinic proved too expensive. Instead the team converted a cargo truck into a mobile clinic with the help of engineer Albert Bonnici. This project still required some €130,000, however, and raising the funds, Attard explains, was no easy task. Kenely's efforts proved instrumental, attracting donations—primarily from companies operating in the health sector—that helped finish the clinic in three years.

The trigger for the dental clinic was research showing that dental care was not reaching all communities in Malta—not everyone was regularly undergoing dental checkups. 'This could be for various reasons, including mobility problems, lack of time, difficulty in making an appointment [...] so I thought that if people were not coming to us, we should bring the service to them,' notes Kenely.

And that is just what the clinic is doing. At least twice a week, the mobile clinic visits schools, local councils, associations, day care centres, or festivals, to provide free screening and oral health advice to various members of the public. Dental students supervised by academic staff operate the clinic. So in this way, the clinic plays a double role, training the next generation



The RIDT's most visible accomplishment is a dental clinic on wheels that has been touring the country since its launch last September.

of dentists while providing dental care to the public. This community engagement could even change how the Faculty organises its courses.

However, Attard emphasises that the clinic is also an invaluable research tool. Engaging the public has also contributed to research that takes the form of data gathering which is collected while the clinic is doing its visits. This forms part of a National Oral Health Survey. The information gathered will serve to help identify the challenges and barriers in dental health care—and research can then weave these strands into a solution.

A BRIDGE TO COTTONERA

Over 12,500 students attend the UoM, but few students come from the Southern Harbour area of Malta. To change this situation the Rector, Prof. Juanito Camilleri, pushed forward the Cottonera Resource Centre in 2013.

Sociology lecturer, Dr JosAnn Cutajar, was carrying out a study on Cottonera when the centre was being planned. She was made its director. Trying to increase university student numbers from this area is not straightforward.

'You discover that you cannot simply work on education, you have to work on multiple issues at once, as any one of them can make a student veer off course,' she states. In order to tackle this issue, the Centre offers free counselling services and a legal clinic.

Many students end up falling behind when they start secondary school because they might shift from a teacher who knew them well to simply being one of many; 'the loss of a human touch' certainly does not



Prof. Juanito Camilleri at the inauguration of the Cottonera Resource Centre in 2013. Photo by Tufigno Photo & Video Services.

help. The resource centre's mentoring project seeks to bring this human touch back. Promising students who might be in need of support are assigned mentors. University students meet them on a regular basis, and take them on educational and social outings. Revision classes in English, Maltese, Mathematics, and Physics are offered to Form 4 (14-year-old secondary) students to help them pass their SEC exams building blocks for eventual entry into university. On the other hand, a STEAM (science, technology, engineering, art, and mathematics) summer school helps younger students engage with the subjects in an inspiring way, encouraging them to adopt a science career.

But the Centre also wants to reach adults. Parents influence their

children greatly. Public lectures are regularly organised, and the Centre targets the community through specially designed courses, such as one on Holy Week and other religious studies. 'The course has proved inspiring,' Cutajar points out, adding how it has shown how people can contribute even if they never thought themselves capable.

Progress has been slow. 'Success is not achieved by everyone,' notes Cutajar, 'and the failures can be discouraging.' But positive feedback has come through: those students in revision classes who pass a subject for the first time, or teachers remarking that mentored students have regained their enthusiasm for learning. 'It's a slow process but it has its satisfactions.' 🍀

a bite-sized education

John Cordina talks to **Dr Jean-Paul De Lucca**, director of the Centre for the Liberal Arts and Sciences, about the University of Malta's most flexible programme of studies yet.

Feel like earning a degree by studying biblical archaeology, beekeeping, pyrotechnics, Russian opera and much more, and to take your time doing so? Thanks to the University of Malta's Programme in the Liberal Arts and Sciences (PLAS), now anyone can.

The programme, which is operated by the Centre for the Liberal Arts and Sciences (CLAS), was only launched two years ago, but has been a quick success, attracting some 200 students—'from all walks of life and with very different education backgrounds,' CLAS director Dr Jean-Paul De Lucca points out—each semester.

'We wanted to reach people who, for some reason or other, did not pursue tertiary

education and would now like to do so without straining their personal and professional lives,' De Lucca explains, adding that the programme also suited graduates who wished 'to continue studying in a bite-size' fashion.

The programme's aim, De Lucca says, is to let people study at their own pace. Around 15–20 study units—typically involving a weekly lecture over 14 weeks and assessment through assignments—are offered each semester, and for a reasonable fee, prospective students can apply for as many units as they desire.

The range of topics covered by the units offered each semester is vast. To provide an example, the units offered during 2015/2016 include 'Saving Lives: Amazing Medical Devices,' 'Shakespeare Revisited,' 'Opera,



Dr Jean-Paul De Lucca. Photo by Jean Claude Vancell

Symphony and Ballet in Russia,' and 'Lighting up the Skies: The Chemistry of Fireworks.'

But the PLAS offers more than the opportunity to learn for learning's sake: it also offers a path for higher qualifications. Its study units are accredited, and should one accumulate enough credits—and there are no time limits for doing so—these can be translated into a certificate, a diploma, a higher diploma, and even a Bachelor's Degree in Liberal Studies. And prior learning can be acknowledged, so undergraduates who did not manage to complete their course can finish their studies through the PLAS.

The Centre may be in its infancy, but it is already evolving. This year saw it offer, in collaboration with the UoM's Department of Computer Science, PLAS' tech units, a selection of ICT-related,

hands-on study units primarily addressed at people working in the field. De Lucca explains that the centre is looking into ways of adapting this model in other areas, to help strengthen opportunities for continuous professional development.

CLAS has also developed partnerships with public entities and NGOs, to offer educational and training opportunities which could be accredited through the programme. All this is in line with De Lucca's desire to see 'the consolidation of opportunities for adult learning, which target those who are seeking employment, a career change, or personal and professional development.'

And if you simply feel that lectures about fireworks would be an interesting way to spend a few evenings, then CLAS has got you covered, too. ■



A lighthouse reinvented

Lars Lorenz meets **Prof. Raymond Ellul** to talk about a lighthouse that monitors air pollutants instead of warding off ships.

The Giordan Lighthouse on the island of Gozo was built in 1851, but was decommissioned as navigation technology advanced. The 150m-high lighthouse has now been reinvented by the University of Malta (UoM) to collect atmospheric data. In 2008 the team, led by Prof. Raymond Ellul, received a European Regional Development Fund of nearly half a million Euro to upgrade the research equipment and hire additional staff. The main goal was to improve the data quality and link it to the global UN-standard air

monitoring system. The data feeds into international climate change models.

Currently, five researchers (from the Department of Geosciences, Faculty of Science) work at the lighthouse, monitoring trace and greenhouse gases, aerosols, and meteorological data. Aerosols are tiny particles in the air and a significant pollutant. An inlet on the top of the lighthouse collects samples, which are distributed to individual measurement instruments inside the lighthouse. One major pollution source is shipping pollution. The waters between Malta and Sicily see one third of the world's

shipping traffic pass by. Ships are allowed to burn highly polluting fossil fuels. The Giordan Lighthouse detects spikes in pollution every time a large ship passes by.

Having in-depth knowledge of air pollution and climate change is extremely valuable. It can help inform policy makers to form the right decisions for a country's environment and health. The research conducted by Ellul and his team helps to identify these problems, their sources, and to calculate how human-generated climate change will affect the Mediterranean Sea. ♡

Intersecting boundaries

Dr Edward Duca highlights some innovations in the Faculty of Arts.

The Arts enhance the way we look at ourselves and the world around us. They give expression to our lives and desires. This range is reflected in the Faculty of Arts' 16 departments from Anthropology to Philosophy and Literature to International Relations.

The last decade has seen a big push for postgraduate education in the Faculty of Arts with over 10 new M.A. courses. The Literary Tradition and Popular Culture course, for example, brings together seven of these departments covering topics from post-modern literature studies to the aesthetics of decline. Some of the academics involved have founded a new journal called *CounterText* with Edinburgh University Press in 2015 to study the post-literary, or how new technological advances and globalisation have changed the literary world.

The M.A. in Film Studies is bridging the gap between film theory and practice. Students produce short films while developing their critical analysis. Keeping in tradition with the rest of the Faculty, they have recently organised film screenings to celebrate the final cut of the celebrated 1973 cult movie *The Wicker Man*. To discuss Shakespeare on the 400th year anniversary of his death, the Department of English (together with other UoM based institutions) organised a series of films in 2016, with the Spanish & Latin American Studies Department doing the same on Cervantes celebrating 400 years of the great writer. Films touch every discipline and people's hearts, stimulating discussion.

Another example of interdisciplinary collaborations is the Humanities and Medical Sciences (HUMS)

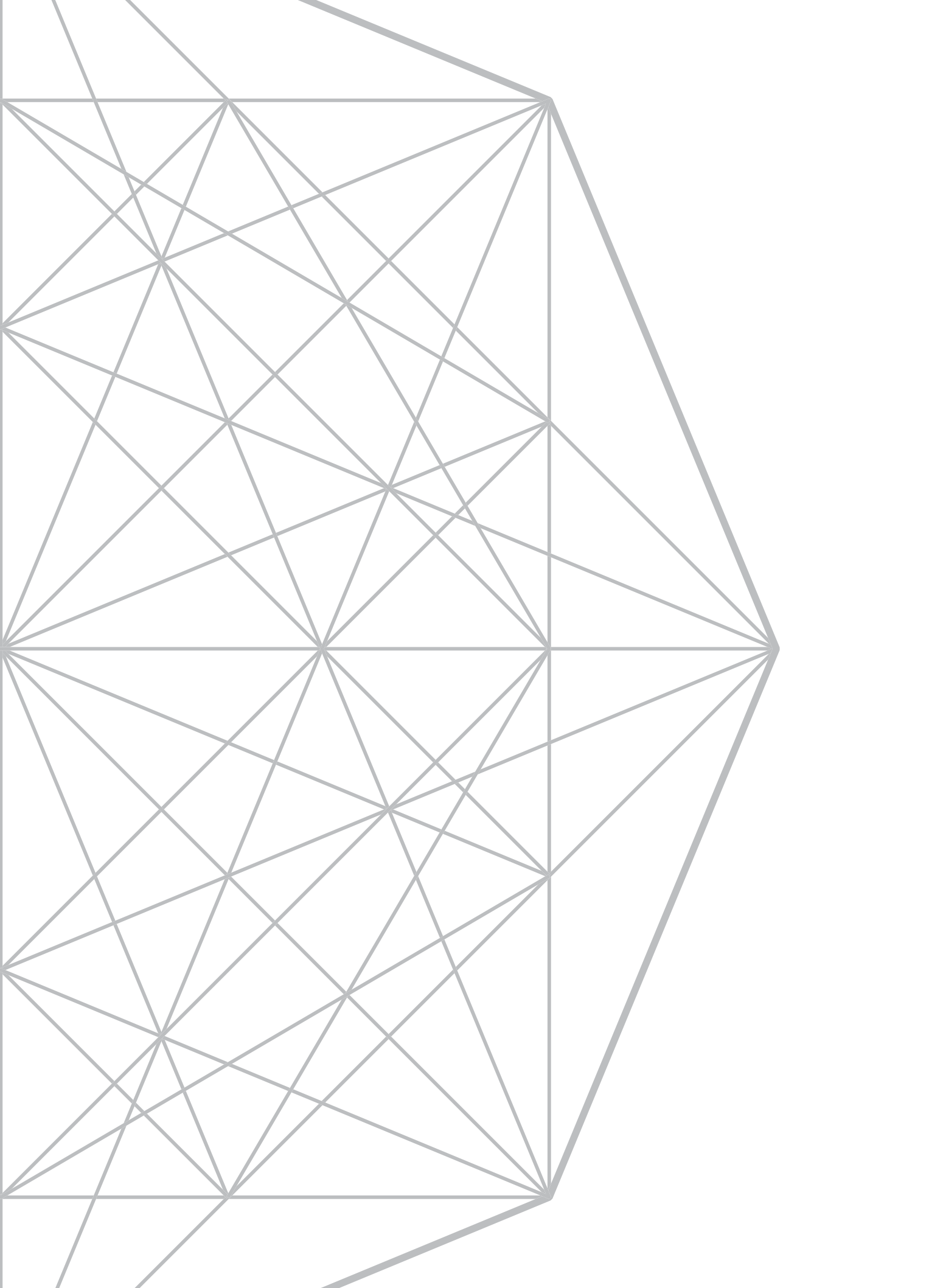
Programme. Since its foundation in 2012 the group has released several papers and books ranging from medicine-related texts in the bible to gender studies of the Maltese medical profession. Apart from regular seminars, the group also supports events such as the 2nd academic Star Trek symposium to be held in Malta this year. HUMS attempts to close the breach between medicine, the sciences and the humanities. Their symposium is a world-first.

Another medium to engage with ideas is exhibitions. The Department of History of Art's research ranges from the Baroque to the contemporary era. In 2016 they hosted an exhibition on the still-life paintings of the renowned baroque-era artist Francesco Noletti, known as *il Maltese*, in the 16th century Valletta Campus. In 2015 another exhibition reflected on modern European sculpture including the work of Maltese sculptor, Josef Kalleja.

An important achievement of this Faculty is a new library inaugurated in 2012. It holds over 3,000 books including the priceless Ann Williams collection. The books reflect every single department in the Faculty including the recently incorporated Departments of German (2008), Spanish & Latin American Studies (2011) and Anthropological Sciences (2011). Perhaps things were best said by Pablo Picasso, 'we all know that Art is not truth. Art is a lie that makes us realise truth.' 🍀



Photo by Elisa von Brockdorff. Banner photo by www.iCreatemotionStudio.com.





UNIVERSITY OF MALTA
L-Università ta' Malta

www.um.edu.mt