

SEPTEMBER 2019 • ISSUE 29

THINK

IDEAS • MALTA • RESEARCH • PEOPLE • UNIVERSITY





MALTA'S SCIENCE AND ARTS FESTIVAL

THE SCIENCE OF YOU

27 Sep 2019

European Researchers' Night • 6pm till midnight

 ScienceInTheCityMalta |  #MSCAnight  #scicitymalta

scienceinthecity.org.mt





EDITORIAL

LOVE

So many decisions we make in life can be stripped down to the choice between love and fear.

Do you stay in a safe relationship that isn't right for you, or do you face uncertainty and start over? Do you take a new job opportunity that pushes you outside your comfort zone, or do you choose to stay in the role you're in where you're familiar with how things function? Do you keep your child within arm's reach so you can protect them, or do you let them go out into the world to explore and discover life for themselves?

In this edition of **THINK** we analyse the concept of love from a multitude of angles. From how 'love' works on a biological level (p.28), to how it can be distorted after exposure to abuse and manipulation (p.24). From the experience of love for people living with a disability (p.30), to the way literature impacts our expectations of love (p.36). We even delve into the odd world of human and robot relationships (p.46).

Given current events and the strange path we seem to have gone down together as a species, our team at **THINK** hopes that love will carry us through these challenging times. We hope our readers use the fear they experience in their lives as a guiding light, shining the way towards what is important. Be brave—embrace the fear and choose love.

Edward Duca
EDITOR-IN-CHIEF

✉ edward.duca@um.edu.mt
🐦 @DwardD

Cassi Camilleri
EDITOR

✉ cassian.camilleri@um.edu.mt
🐦 @CassiCamilleri

Daiva Repeckaite
EDITOR

✉ daiva.repeckaite@um.edu.mt
🐦 @daiva_hadiva

FIND US ONLINE



To read all our articles featuring some extra content
um.edu.mt/think



To follow our daily musings and a look behind the scenes
facebook.com/ThinkUM



To communicate with us and follow the latest in research news
twitter.com/thinkuni



To see our best photos and illustrations
instagram.com/thinkuni



To view some great videos
youtube.com/user/ThinkUni



To read all our printed magazines online
issuu.com/thinkuni



For our archive from the University of Malta Library
um.edu.mt/library/oar

CONTRIBUTE



Are you a student, staff, or researcher at the University of Malta? Would you like to contribute to **THINK** magazine? If interested, please get in touch to discuss your article on think@um.edu.mt or call +356 2340 3451

COVER STORY



LOVE

The third in our celestial series, this cover is the warmest of them all. From snuggly yellows to burning reds, it encapsulates the theme perfectly—LOVE.

LOVE FOCUS

Tying the second knot	18
The language of <3	22
What's love got to do with it?	24
Make cognitive science your agony aunt	28
Unwrapping intimacy	30
Love (in) letters	36

16

CONTENTS

ISSUE 29 • SEPTEMBER 2019



4

TOOLKIT
Eyes front!



6

WITHOUT BORDERS
Sharing a love for cycling



8

DESIGN
Beach bodies FTW



10

OPINION
The limits of loyalty 10
Save the night 12



14

STUDENTS
Mathematical equation of breast tissue 14
Saving the skates 15

CONTRIBUTORS

TOOLKIT

Cassi Camilleri
Prof. Ing. Kenneth P. Camilleri
Dr Ing. Stefania Cristina
Daiva Repeckaite

WITHOUT BORDERS

Suzanne Maas

DESIGN

Cassi Camilleri
Martina Mifsud

OPINION

Dr Joseph Caruana
Raphael Vassallo

STUDENT SECTION

Daphne Anne Pollaccho
Gail Sant

FOCUS

Prof. Angela Abela
Aġenzija Sapport
Dr Claire Azzopardi Lane
Latasha Barbara
Marthese Borg
Dr Anne-Marie Callus
Cassi Camilleri
Emma Clarke
Francesca Fenech Conti
Lorna Muscat Baron
Prof. Patrizia Paggio
Daiva Repeckaite
Dr Clarissa Sammut Scerri
Oliver Scicluna

FEATURES

Ing. Sean Agius
Denise Baldacchino
Prof. Joseph Cilia
Prof. Ing. Simon Fabri
Prof. Ing. Philip Farrugia
Veronica Stivala
Eryl Vella
Adrian Vella

IDEA

Prof. Alexiei Dingli

RIDT

Laura Bonnici
Prof. André Xuereb

ALUMNI

Dr Lara Dimitrijevic
Teodor Reljic

START UP

Marina Fabic
Chris Styles

LAB TO LIFE

Martina Borg
Felix Baldacchino
Francis Baldacchino
Prof. Ing. Duncan Camilleri
Etienne Scerri

ILLUSTRATIONS

Gabriel Izzo
Kieran Teschner

PHOTOGRAPHY

Isabelle Cassar Fiott
Therese Debono
James Moffett
Sarah Zammit

WEBSITE

Cassi Camilleri
Roberta Scerri

THINK is a quarterly research magazine published by the Marketing, Communications & Alumni Office at the University of Malta.

To subscribe to our blog log into um.edu.mt/think/subscribe and fill in your details.

For advertising opportunities, please call **2138 2741/7989 4778** or get in touch by email on afarrugia@mediatoday.com.mt



40

FEATURE

Light your own fire

A small device can generate heat and energy for home users.

FEATURE

Understanding motorcyclists for safer driving

Motorcycles could alleviate the traffic chokehold on the islands, but how can we make them safer?



44

START-UP

The scent collector

Inspired in Egypt, produced in Gozo, these perfumes promise a new sensory experience.



48



46

IDEA

How Beep is your Love?

Robots can replicate basic building blocks of intimacy, but could we love them?



56

RESEARCH

A Quantum Leap for Communication

The protons may stay entangled, but we can untangle quantum-encrypted communication for you.



52

LAB TO LIFE

Research runs in the family

Multiple generations join forces to innovate.

TO-DO LIST

Carefully selected entertainment suggestions – with love from THINK – to you.



64

ALUMNI

Rejecting apathy at all costs

Lawyer and activist Dr Lara Dimitrijevic tells her story.



60

THINK
IDEAS - MALTA - RESEARCH - PEOPLE - UNIVERSITY
September 2019 - ISSUE 29

EDITORIAL

Edward Duca EDITOR-IN-CHIEF
Cassi Camilleri EDITOR
Daiva Repeckaite EDITOR

DESIGN

Gabriel Izzo DESIGNER

COPYEDITING

Robert Louis Fenech

PROOFREADING

Robert Louis Fenech

PRINTING

Print It, Malta

ISSN 2306-0735

Copyright © University of Malta, 2019

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
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.



Eyes front!

How often do your date's eyes glance down at your chest? Which products do people notice in a supermarket? How long does it take you to read a billboard?

Eye trackers are helping researchers around the world answer questions like these. From analysing user experience to developing a new generation of video games, this technology offers a novel way of interacting with machines. People with disabilities, for example, can use them to control computers. A team at the Department of Systems and Control Engineering (University of Malta) is using a research-grade eye-gaze tracker, worth around €40,000, to test technologies they are planning to commercialise soon.

Currently, commercially available eye-gaze trackers illuminate a user's face and eyes with infrared rays to detect and monitor eye movements – this is called active eye-gaze tracking. The UM team, composed of Prof. Ing.

Kenneth P. Camilleri, Dr Ing. Stefania Cristina, and Daniel Bonanno, in collaboration with Seasus Ltd, are developing a passive eye-gaze tracking system that does not require specialised hardware. A simple laptop or computer with a webcam does the trick, allowing the user to move naturally. The technology's applications even spill over to music.

'Dr Alexandra Bonnici, a fellow lecturer and a pianist herself, put forward the idea of developing an automatic page turner for digital music scores based on the user's eye movements,' Cristina explains. Electrical Engineering student Andre Tabone took the project on as part of his dissertation and made it happen. 'The feedback we have received from musicians was positive. Alexandra herself tried it out. The implemented system managed to achieve accurate results with very few delays,' adds Cristina.

But the work continues to evolve. 'We have gone further and developed algorithms to monitor the quality of the piano playing so that feedback may be provided automatically to the student piano player,' Camilleri says. The advanced testing device is useful for perfecting its webcam-based relatives. If you want to try the tracker out yourself, a prototype is going to be available at Science in the City festival. Go check it out! 



Dr Ing. Stefania Cristina
Photo by Sarah Zammit

Note: The project, called WildEye, is funded by the Malta Council for Science and Technology through FUSION: The R&I Technology Development Programme 2016, and is aimed towards providing persons with communication difficulties an alternative means to operate a computer.

An experiment using eye tracking glasses and other scientific techniques to explore how people interact when meeting for the first time:
youtu.be/YZB2t3uzWD8

WITHOUT BORDERS

Sharing a love for cycling

Author: Suzanne Maas

It's not even a stereotype – the Dutch are practically born on a bicycle. I received my first two-wheeled friend as a birthday present when I was just three years old, and I have never looked back. From age ten onwards, I cycled to school and everywhere else on my own, and when I was a student, I used to spend one and a half hours every day cycling to my university campus in Utrecht. I only learned that cycling is not such an obvious choice as a mode of transport once I started travelling to other countries, and that hard truth particularly hit home when I moved to Malta seven years ago. Cycling changed from lifestyle to a research interest.

Cycling as a mode of transport is a great solution to many of today's challenges. Cycling improves overall fitness and wellbeing. Thirty minutes of cycling, the minimum amount of daily exercise recommended by the World Health Organization, can contribute to a 50% reduction in

the risk of developing diseases such as diabetes, obesity, and coronary heart disease. From an environmental perspective, hopping on a bicycle instead of in a car reduces air and noise pollution, is practically carbon emission-free, and is far more space-efficient than driving a car (bike: 1.5m² parking space, car: 10m² parking space). Cycling is also one of the most equitable forms of transport, because it is so affordable. As an increasingly popular saying goes, a bicycle 'runs on fat, not on money,' whereas a car 'runs on money and makes you fat'.

So cycling is about health, community, and culture as much as it is about urban design and mobility. In my research, I look at the introduction and use of bicycle sharing systems (such as nextbike Malta) and the promotion of cycling in three different island cities in Southern Europe: Limassol in Cyprus, Las Palmas de Gran Canaria in the Canary Islands

(Spain), and urbanised areas of Malta. By analysing trip data provided by the bikeshare operators and responses to a survey of bikeshare users, I am trying to understand the “with”, “when”, “where”, “why” and “how” of bikeshare use. I look into how bikeshare use is influenced by weather, topography and culture, and how encouraging and discouraging factors can contribute to promoting cycling in these cities.

My preliminary results confirm what is clear from the literature on cycling: provision of bicycles through bicycle sharing schemes alone is not enough. Cycling becomes accessible for all where authorities build safe, convenient and connected cycling infrastructure, implement educational and motivational programmes, and use media and community organisation to change social norms and transform culture. Look at Seville (Spain), where cycling grew tenfold (from 6,000 to 66,000 daily cyclists)



Suzanne Maas
Photo by Therese Debono

in a five-year timespan! The city achieved this by creating a connected network of bicycle infrastructure separated from car flows and introducing a bicycle sharing system.

When people find out about my research, and that I come from the Netherlands, they love to say 'but we're not Amsterdam!' Well, Amsterdam wasn't Amsterdam either, back in the 1970s. The streets were clogged with cars, creating traffic jams along the iconic canals and blocking the narrow pavements. Decades of policy, planning, and promotion of cycling have turned the city into a world-famous cycling haven. Yes, weather, topography, and culture matter when it comes to cycling, but ultimately it is political will that is needed to create space for the most efficient and convenient mode of transport there is: the bicycle.

If you have ever used a shared bicycle in Malta, you can contribute to this bikeshare user survey:

www.survey.bike and get a free 30 minute nextbike ride!

Limassol, Las Palmas de Gran Canaria and Malta are all partner cities in the CIVITAS DESTINATIONS project, a European Union-funded project piloting sustainable mobility initiatives for residents and tourists. Suzanne works as a Research Support Officer at the Institute for Climate Change and Sustainable Development of the University of Malta, one of the project partners.

DESIGN

Beach bodies FTW

Author: Cassi Camilleri

In formal art instruction, especially in contemporary art, the human body is but a mere shape and structure. Tina Mifsud's latest series of paintings, collectively titled *Plajja*, takes the trope and turns it on its head. She uses forms not to create the perfect aesthetic, but to address issues of insecurity.

'My latest beach collection was highlighting a positive body image and confidence, which is such an important topic of discussion these days. I wanted to make sure to highlight the beauty of all figures, shapes, and sizes, in a way I find so beautiful and fine,' Mifsud says.

Her reference to 'fine' alludes to the artistic skills which are usually associated with Renaissance-era paintings. 'It's very important for [an artist] to experiment and use different methods and techniques to express themselves,'

Mifsud notes. 'I think the idea of mixing [artistic] "eras" can be effective and fresh.' And so she did. Her paintings blend modern Mediterranean visuals with the attention to the ordinary, evident in the classical Flemish masters.

As part of her artistic process, Mifsud also writes up her subjects' profiles. 'Profiling was not part of my training, it was just a technique I thought would be interesting to enhance my work, and I think it was successful.' This attention to people's personalities and characters allowed Mifsud to build colours and shapes around the lines of their bodies. 'It happened pretty naturally, as I love speaking to people and knowing their stories.' After all, she says, these people aren't some 'unrealistic, edited Instagram models. [...] These people are us, now, and in the future!' **T**



In the frame: Ramla



Top: Barceloneta
Bottom left: Figueres
Bottom right: Lina





The limits of loyalty

Raphael Vassallo

In a country where 'political allegiance' often seems like an end in itself, it should have to take extraordinary circumstances to shake up one's political allegiances.

Yet recent history seems to point in a different direction. Limits to party loyalty do exist, but they are often rooted in matters of the heart: issues that may be unrelated to 'politics' in the narrower sense; and which may even appear trivial to anyone who doesn't share such emotional bonds.

Malta's budding environmental protest movements are a classic case in point. The ongoing Central Link project controversy – coupled with an arguably unprecedented construction boom – has resulted in a palpable wave of environmental unrest that cuts cleanly across the traditional partisan divide. In part, the

discontent can be traced to a profound emotional attachment (in this case, to a particular streetscape) that people fear may be permanently severed.

For it wasn't just any old 500+ trees that are facing the axe with that project. They included some of the iconic Aleppo pines that line the Rabat Road: an almost picture-perfect postcard of our collective nostalgia for the 'Malta of our childhood'.

It was more than just nostalgia, however, that drove a significantly higher percentage than usual to participate in street protests. There is also a fear that, projected into the future, the loss of those trees (and all they represent) will also herald the eventual loss of an irreplaceable part of our entire cultural identity.

Faced with this backlash, the traditional language of Maltese party-

politics finds itself uncharacteristically powerless. The time-honoured method of resorting to partisan 'warfare' – by appealing to partisan distrust of the political 'other', for instance – does little to assuage such fears.

To those who genuinely feel that emotional attachment, it doesn't really matter which political party is responsible for the defacement of our countryside. Their environmental angst becomes more important than the political cause they have always believed in; and this sentiment can only grow, when – on the environmental front, at any rate – there are no longer any clear policy differences separating the two sides.

Under such circumstances, one would expect cracks to start appearing in the structure. Glenn Bedingfield, one of Prime



Minister Joseph Muscat's closest friends and confidants, recently chose to publicly vent his frustration at his own government's choice of land for the construction of the new 'American University' campus.

Though it might be a coincidence, the choice of land itself seems to also resonate with the same emotional power. Bormla. Dock Number One. The beating heart of Malta's entire Socialist movement, whose birth can be traced precisely to the same shipyard in the distant 1920s.

More poignantly, it was also the site where Alfred Sant had famously denounced Dom Mintoff as a 'traitor', for bringing his government down in a confidence vote. Besides, Bormla is also Glenn Bedingfield's hometown: to which he evidently also feels a form of allegiance. Reading his article in *The Times*, it is in fact hard not to detect the entirely personal dilemma of a man who feels genuinely torn between his two most precious loyalties.

Bedingfield is far from alone in this predicament. Former Prime Minister Lawrence Gonzi had also discovered that he could not rely on the same unquestioned political allegiance. The ODZ extensions of 2005 and 2006 (among other issues) had likewise brought thousands of protestors onto

the streets. Numerous Nationalists felt betrayed by 'their' government's actions, on an issue to which they themselves felt emotionally attached. So it unsurprising that today's Labour government is beginning to feel the same pinch.

Current times may well prove a pivotal consideration for the entire future of Maltese politics. Where does the present political landscape leave all those disgruntled former Nationalist or Labour voters, who feel betrayed by 'their' party on issues that matter personally to them? What good can switching party allegiance hope to achieve, when both parties doggedly pursue the same economic model?

Instead of turning to other parties large or small, they seem to be turning their backs on politics altogether: uniting in small but vociferous lobby groups, conducting activism online, or organising protests like the 'Enough is enough' (7 September) one against 'construction madness': to which Maltese political parties were pointedly (and explicitly) uninvited.

In the fullness of time, it seems inevitable that these limits of partisan loyalty can only continue to encroach on the traditional model of 'political allegiance for its own sake'. Calls to arms won't cut it. 



Photo by Dr Joseph Caruana

*The sky goes on forever, the stars;
they wait each night for someone to find them,
in quiet spots as yet unspoiled by light and mayhem.*

Nina Rosner – 'Malta'



Save the night

Dr Joseph Caruana

The dwindling, peaceful glimmer of twilight promises a clear night. The vivid yellows and oranges give way to more subtle hues until a deep and ever-darkening blue takes over. Slowly, the velvety sky turns into a black canvas peppered with twinkling lights, as the first eerie cries of shearwater birds are heard in the distance.

This magical spectacle plays out most evenings at Dwejra, Gozo. This popular tourist site is one of the last places on the Maltese Islands that offer a sufficiently dark sky to observe our home galaxy — the Milky Way. The proliferation of badly designed exterior lighting all over the islands means that it is impossible to fully escape the deleterious effects of light pollution. This westernmost region of Gozo is as far as one can get to escape the glow of artificial light emanating from the rest of the Maltese Islands.

In 2006, the Malta Environment and Planning Authority designated a small number of coastal sites in Gozo and Comino as Dark Sky Heritage Areas (DSHAs), representing zones that are relatively darker, offering a respite to nocturnal creatures and

a tantalising view of a starry night sky. Unfortunately, none of these sites are pristine; rather, they exhibit a brightness gradient, with sky glow increasing as one shifts their gaze inland, away from the sea.

Dwejra is the best of these sites, especially when it comes to views of the southwestern sky. However, the dark sky heritage of this site, which is worthy of the highest protection, faces threats on two fronts: on-site development, and skyglow spilling over from unchecked lighting on the rest of Gozo.

Light sources at Dwejra are hugely detrimental since they directly pollute the night sky above. Light ends up brightening the sky whenever it leaks upwards or reflects off surroundings. Moreover, it can result in glare, as well as disorient bird species. Recently, it was incredibly disappointing to witness the approval by authorities of further on-site development, nonchalantly disregarding scientific studies measuring the actual effect of artificial light upon the night sky brightness. The islands need more evidence-based decision-making.

As for skyglow encroaching upon Dwejra (and other DSHAs) from the rest of the islands, the solution is to draw up a nationwide policy on light pollution, developing a mitigation strategy that is direly needed — not just for the purpose of conserving these sites, but also to address the terrible situation that prevails in urban and suburban zones, where glare and light trespass can be of harm to human health.

In comparison to other environmental issues, the problem of light pollution is quick to reverse. We would go a long way towards regaining our dark skies if we were to: direct light solely downwards, utilise fixtures with a warmer colour temperature that does not exceed 3,000K, use lighting only where it is required, and where appropriate, implement practical measures such as curfews. These measures would instantly cast away the glowing veil that shrouds the stars, and in time allow nocturnal life to flourish. It is not a difficult problem to tackle. It is merely a matter of will. Let's keep the magical spectacle of the night sky alive for future generations. **T**

STUDENTS



Mathematical equation of breast tissue

Daphne Anne Pollacco

Breast cancer is the most commonly occurring cancer in women and the second most common cancer overall. Malta ranked at number 17 among the 25 countries with the highest rates of breast cancer in 2018, according to World Cancer Research Fund International.

Cancer patients often need X-ray imaging for diagnosis and to track recovery. But X-ray radiation is a double-edged sword. It can help to spot the cancer, but it can also contribute to the problem.

Radiation can change the molecular and atomic structure of tissue, potentially leading to other cancers developing. But do any other technologies exist that could achieve the same result without harming patients?

My research is about using microwaves for cancer imaging. This journey began when the physicians and anatomists at the Faculty of Science (University of Malta) came together to tackle this challenge. Microwave radiation, unlike X-radiation, is non-ionising and does not alter biological matter. Microwave imaging can be used alongside ultrasound and magnetic resonance imaging (MRI), but it has several advantages. While MRIs can take hours to image a 'slice' of the human body, microwave imaging can

yield results in minutes. The technology is also cheap as parts are already being used in telecommunications, which means that most hospitals worldwide could afford it.

In order to continue developing microwave technology, we first had to test it. We also needed to better understand how healthy tissue responds to radiation, so that we know what differences to look for when a tumour is growing. To do this, we have been performing experiments on rats. Rats are a good model to use because their adipose (fat) and muscle tissue bear many similarities to human breast tissue. Using microwaves, we take measurements from these animals which give us clues about the tissue's physical properties. Changes in these measurements would alert us if a cancer was present.

With these measurements and a clever mathematical equation, we can also make computational simulations of human breast tissue, which allow us to keep testing and adapting the technology. Another goal we have is to come up with an even more intricate equation that we could use to simulate other types of tissue. If we manage this, we could simulate liver, lung, brain, or any biological tissue you can think of, and test microwave imaging on them in the lab. Eventually, this will add another technology to the arsenal. 



Saving the skates

Gail Sant

They're called 'skates'. Yes, like the shoes. Like sting rays, but less popular.

If I had a penny for every time I uttered those words throughout my dissertation years, I'd be a rich woman. You'd think that skates, a regular at the daily fish market, would be part of people's general fish-knowledge. But it came to me as no surprise, considering how culinarily, environmentally, and economically unappreciated they are.

My dissertation year was entirely focused on the *Raja clavata* (English: Thornback Ray, Maltese: *Raja tal-Fosos*), and its sister *Raja montagui* (English: Spotted Ray, Maltese: *Raja tal-ghajn*). Guided by Dr Leyla Knittweis-Mifsud and Prof. Patrick J. Schembri, the study's aim was to see whether the scientific and non-scientific sources used to identify and distinguish these two species do so effectively. Spoiler alert: They don't. I found that the characteristics listed in identification guides weren't enough to recognise them, and the implications of this are as unknown as the fish themselves.

The Thornback Ray is usually caught and sold as bycatch (unintentional fish catch). The Spotted Ray's presence is less clear. Information is lacking about its occurrence and use in the Maltese fishing industry. But if we have no reliable

means of telling the two species apart, there's no way of knowing which is truly which. Because the Thornback Ray has never made a splash in the fishing industry, there has only been a single failed attempt to study its population. Despite the study never being completed due to a lack of data, it indicates that the fish is being overexploited.

Having unreliable monitoring data creates a ripple effect of misinformation throughout a hierarchy that ends with poorly implemented regulations and inaccurate conservation statuses. The experience has made me aware of a situation that's becoming increasingly urgent, spiralling me into a mini-scientific existential crisis. What's the point of having so many laws and regulations about registering, studying, and identifying caught fish if we may be doing it all wrong?

But I soon came to view this more positively, as something that motivates rather than disheartens me. There is still so much we don't know! We need research to help answer our questions and in turn help us live more sustainable lives. And as for the skates, through scientific studies and increased awareness, these finned friends can enjoy the fruits of better-fitting fisheries regulations that will see them survive and flourish in the ecosystem. 





LOVE

Love loves to love love, James Joyce wrote in *Ulysses*. Every attempt at discussing love seems to demand abstraction, which can easily float into an idealised understanding of LOVE and drive it further from lived

experiences. In this FOCUS, we unpack this human condition by looking at its boundaries and cultural norms, the biological mechanisms that underpin being in love, and what happens when love turns sour.



Tying the second knot

If you voted, then you can now put a ring on it.

18



The language of ♥

Can we 'heart' our way to better communication?

22



What's love got to do with it?

There is more awareness of domestic violence, but stereotypes still abound.

24



Make cognitive science your agony aunt

What happens in our brain when we fall in love?

28



Unwrapping intimacy

Good intentions can keep people with intellectual disabilities trapped.

30



Love (in) letters

Contemporary writers challenge romanticism.

36



Tying the second knot

*In May 2011, three quarters of the electorate went to cast their vote on whether or not divorce should be legal in Malta. The verdict came in strong with 53% voting in favour of legalising divorce. But how do people really feel about love and remarrying? Words by **Emma Clarke**.*

Earlier this decade, Malta was one of three countries in the world where divorce was illegal, the other two being the Philippines and the mostly celibate Vatican City. When the votes came in, a majority of 53% opted to legalise divorce, despite massive campaigns against it by the Catholic church and then-Prime Minister Lawrence Gonzi.

Joseph Muscat, who was Opposition Leader at the time, proclaimed that this was 'the birth of a new Malta'. But are citizens as open to using this hard-won right as they were in voting for it? In a changing cultural landscape, this step's significance might not be immediately obvious. How do the people of Malta feel about love the second time around? And how important is it to them to have the freedom to make this love official through marriage?

Before the legal changes, Maltese couples had been separating, falling in love again, and cohabiting with new partners for decades. Yet the new legislation has allowed an important new freedom: remarriage.

THE RESEARCH BEHIND DIVORCE

Prof. Angela Abela, a clinical psychologist at the University of Malta, has long been interested in family relationships. When the referendum rolled around, it inspired her to make a constructive contribution to the impassioned discourse around divorce. 'I wanted our [team] to make a contribution to the debate in an empirical way, to give people food for thought and an opportunity for reflection,' she says. This was how the study of attitudes towards remarriage among married or previously married individuals came about.

Abela believes that the liberalisation of divorce is fascinating, as it highlights the mixed attitudes of a culture in transition. In particular, a shift towards secularism has altered the role of the Church in Maltese society. 'When it comes to family and relationships, the changes happening are unprecedented, perhaps not only in Malta,' she says. 'The interesting thing about Malta is that it went from a very traditional country to being much more secular. Before, the Catholic Church

had always had a large influence on society.' This transition was perhaps evident even to the Church itself: as the referendum neared, the Bishop of Gozo published an unprecedented apology for demonising those who advocated for legalising divorce.

Abela also believes that Malta's island culture has, in the past, affected attitudes towards family and relationships. 'Parents used to have a strong grip on their children,' she says. 'And gossip was often used as a form of social control, to keep people in the mainstream.' In the 21st century though, Abela speculates that globalisation and the technological revolution have changed the cultural influences on society.

People, especially young people, the researcher notes, are travelling more. In addition, social media may have allowed the spread of ideas.

These changes might account for the generational divide in attitudes towards remarriage that was identified in the study. Seemingly, the younger someone is, the more open they are to remarriage, with nearly a third of people below 40

considering remarriage, in contrast to just 7.5% of those who were 61 or older. The group most likely to consider remarriage were those who were under 40 who had already been previously married. Abela speculates that this apparent generation gap may signal a shift in thoughts about relationships and family.

People with higher educational attainment were more likely to consider remarriage. This was true regardless of whether or not someone had been previously married, and Abela speculates that it could reflect differences in financial security. 'There is this additional socio-economic aspect to it,' she says, 'because it costs money to settle down.'

Parents were less likely to consider remarriage than others, and it's clear to Abela that despite social change, many people still prioritise what they think is best for their children. Parents who had children from outside of their marriage, however, were overwhelmingly more likely to consider remarriage, especially when asked if they would do so for their children's sake. It's

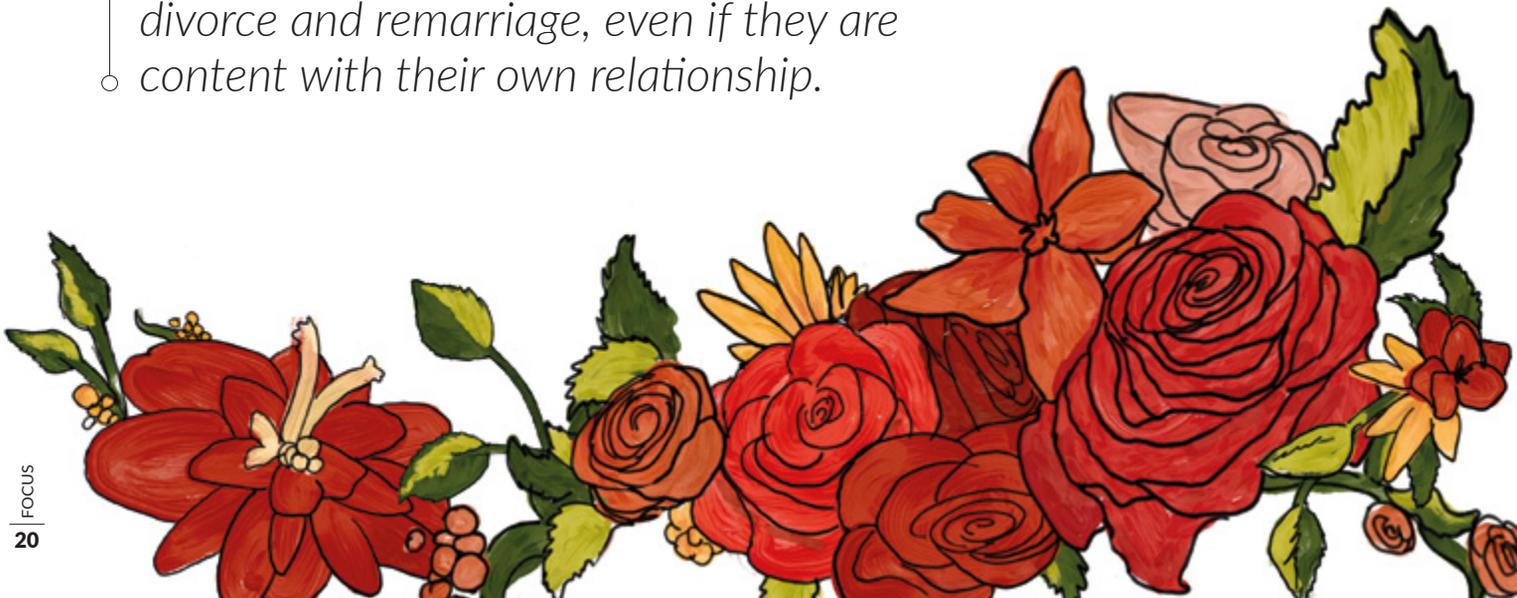
also plausible that having children shapes one's chances of meeting and connecting with someone new.

SURPRISING FACTS ABOUT DIVORCE

For Abela, one of the more striking findings of the study was that the majority of participants, 67.5% of the 2,006 surveyed months before the referendum, said that they would not consider remarriage if divorce was legalised in Malta. In fact, only 18.5% said that they would, while 14.8% remained undecided. Abela believes the study suggests that a lot of factors affected how people voted, not only or necessarily a simple personal desire to remarry.

So why does the researcher believe that most participants would not consider remarriage? For one thing, separation rates in Malta are relatively low compared to the global average. A previous study by Abela in 2014 indicates that, in general, marital satisfaction in Malta is high. For many, then, separation and divorce are not something they feel the need to consider for

Still, the result of the referendum suggests that a majority of people wish to live in a society that allows divorce and remarriage, even if they are content with their own relationship.



their own lives, let alone the possibility of remarriage. Nearly 20% of the respondents said they would not want to relive past bad experiences. Still, the result of the referendum suggests that a majority of people wish to live in a society that allows divorce and remarriage, even if they are content with their own relationship.

When they voted, people may have been thinking of the rights of friends and family members. After all, Malta is a small island with a culture of closeness, so people have ample opportunity to discuss values and beliefs, and to consider the views of others they are close to. People felt that the right to divorce is inherently important, even without the desire to use it themselves.

LOVE CONQUERS ALL

So for those who would consider remarriage, what were their reasons? The most common answer people chose was love, followed by the desire to live in the company of someone, and then because it is a right.

Though some other explanations cropped up, such as consideration of the children and to have more entitlements, it seems that people still think of remarriage primarily as a romantic and emotional decision.

Abela believes that our mindsets are key determinants in our behaviour and decision-making. For a long time, the family bias in Maltese culture and the strong presence of the Catholic Church may have meant that people were making decisions following a sense of obligation. In younger generations, the winds of change now seem to be picking up. This vote helped people whose relationships failed, for whatever reason, to have the option to try again, safe within a legal framework that looks after their interests. **T**

Further reading:

Abela, A., Casha, C., Debono, M., & Lauri, M. A. (2015). 'Attitudes about remarriage in Malta'. *Journal of Divorce & Remarriage*, 56(5), 369-387.

Interested in a career with the EU Institutions?



"I have just recently finished a semester studying at the University of Konstanz, Germany, as part of the ERASMUS+ Programme. I was beyond delighted to be chosen as the University of Malta's EU Careers Ambassador for the upcoming academic year and saw this opportunity as both exciting and challenging. I will work closely with the MCAST EU Careers Student Ambassador, the Ministry for European Affairs and Equality, agencies such as MEUSAC as well as lecturers from the University of Malta, to promote EU careers through social media and events."

FAITH SPEARING is a second-year student reading for Bachelor's degree in European Studies at the Institute of European Studies, University of Malta.

What is an EU Careers Student Ambassador?

The role of the EU Careers Student Ambassador includes promoting employment and internship opportunities offered by the European Personnel Selection Office (EPSO) within the EU Institutions and Agencies. Support and guidance will be offered by the Permanent Representation of Malta to the EU in Brussels and EPSO.

The EU offers many opportunities, ranging from short-term initiatives such as traineeships to long-term employment such as permanent officials.

A career within the EU Institutions and Agencies means that you are able to travel and also learn new skills such as learning new languages and be part of the European project.

It also gives you the opportunity to work in a multicultural environment.

The language of ❤️



Can emojis replace words, or are they pretty decorations to our verbal communication?

Latasha Barbara 🧐 looks into the science behind our use of emojis.

There is more to language than words. Facial expressions, intonation, and body language all have an effect on how one's message comes across — this is known as paralinguistics. These qualities are essential for communication, and our innate need for it doesn't disappear when using screens. But does our digital world adequately portray our gestures and true feelings behind a text message? 😊😏😘

Enter emojis. Often dubbed the hieroglyphs of the modern world, they are pictorial symbols representing an object, feeling, or concept, used in text messages and other electronic communications. The term comes from Japanese ('picture' + 'character') and has been around for over 20 years.

According to Prof. Patrizia Paggio from the Institute of Linguistics (University of Malta), Chinese characters are the closest thing we have to a living logographic language heavily relying on pictorial (iconic) elements. However, Chinese characters are much more complex than the first emojis, which were focused on communicating feelings. And this is why some suspect they made such swift inroads into social networks.

The heart emoji has had a lot of traction. Users jumped at hearting photos on Instagram, so much so that Facebook followed suit, allowing people to 'Love' posts instead of just 'Like' them. Twitter also changed its star-shaped button to 'Favourite' a tweet in favour of a heart button. 'You might like a lot of things, but not everything can be your favorite,' Twitter proclaimed in the company's blog. 'The heart, in contrast, is a universal symbol that resonates across languages, cultures, and time zones. The heart is more expressive, enabling you to

convey a range of emotions and easily connect with people.'

Tinder stands out among popular apps by not featuring a heart emoji in its top 5. This implies a sensitivity to context. On a dating site the heart is treated with a bit more care, whereas on a messaging site many view it as spreading virtual happiness. 'I'm happy if my daughter sends me a heart,' Paggio admits.

Sometimes emojis go beyond their initial meaning. Take the poop emoji. The way it proliferated on social networks breaks the taboo around natural bodily functions by adding an element of humour. This year we can expect more of this, including a red drop of blood to represent menstruation and blood donation.

All this being said, emojis have their limitations too. While they have done a good job at reproducing the effects of gestures and facial expressions, they are powerless to capture human differences in pitch, volume, speed, and intonation. This, as well as different cultural interpretations, can result in misunderstandings. Paggio cites an example from India, where folded hands (🙏) represent salutation, while numerous Twitter users interpret the symbol as a high-five. Other users employ the folded hands emoji to say 'please' or 'thank you', showing that emojis are nowhere close to universal.

Even though emojis are nowhere close to replacing traditional languages, they can certainly aid them, as seen by MaltaAAC, a Maltese Augmentative and Alternative Communication app developed by Dr Ing. Owen Casha and Sylvan Abela from the Department of Microelectronics and



Prof. Patrizia Paggio

Nanoelectronics (UM) and Dr May Agius from the Access to Communication and Technology Unit. This app was created to help children who suffer from communication impairments due to conditions like autism, or motor impairments like cerebral palsy. It is also ideal for immigrants to understand the Maltese language and communicate through pictograms.

For maximum clarity, most users mix text and emojis. To understand how these components are read, Paggio

and her team are working on a study using eye tracking technology (see p. 4). Users read a sentence on screen containing an emoji, and the tracker follows where their eye gaze wanders to compare how much time they spend looking at the various words and symbols. 'What I'm very interested in is understanding whether emojis are easy or difficult for people to [read] and to use, and how it works when they are given different contexts and different kinds of emojis,' Paggio explains.

According to the website created by Dutch social psychologist Dr Geert Hofstede, every culture has a unique configuration between power distance and individualism. Power distance refers to social hierarchy that reveals inequality in the distribution of power, whereas individualism promotes each person's moral wealth. The more individualistic the culture, the higher the use of positive emojis 😊😊😊 (joy, unity, etc.). On the other hand, the higher the power distance, the larger the gap between the authority and people, the more negative the emojis used – 😠😡😢 (frustration,

anger, sadness etc.). In Malta, positive (individualism) and negative (power distance) opinions are almost in equilibrium. In addition, Malta scores high in uncertainty avoidance, which is indicative of a conservative society.

In an interview in 2016, the creator of emojis Shigetaka Kurita stated that emojis are not a sign that people are losing their ability to communicate, but rather they are enhancing the way that they express their opinions. Using emojis, we do not only communicate between us – we also communicate something about us. Paggio suggests that future research on emoji use in Malta may uncover new insights into our culture. What will it reveal? 🇲🇹👍👎🗣️

Further reading:

Abela, S. (2018). Maltese for all. *THINK Magazine*, 25, 38-43 or um.edu.mt/think/maltese-for-all/

Hofstede Insights – Compare countries: www.hofstede-insights.com/product/compare-countries/

WHAT'S LOVE GOT TO DO WITH IT?



While some of us are privileged to be shielded from it, the truth remains – violence in Malta is rampant. From popular songs to neighbours' conversations, the normalisation of abuse is shaping our communities and our basic understanding of healthy relationships. Words by **Cassi Camilleri.**

Nearly a quarter of our island's female population is subject to physical and / or sexual violence before reaching the end of compulsory education. Citing the EU-wide survey on violence against women by the European Agency for Fundamental Human Rights, family studies expert Dr Clarissa Sammut Scerri points out that statistically, 22% of Maltese women have experienced one of these acts of violence by the time they are 15 years old.

THE FOG OF ABUSE

The effect that gender-based violence and domestic violence has on people is multifaceted. It can range from devastating physical injuries in the short term, to long-lasting conditions like chronic fatigue, sexual dysfunction, and gastrointestinal problems. Many victims also suffer from a range of mental health difficulties that include anxiety disorder, depression, and post-traumatic stress disorder. However, 'subtler' impacts also occur.

In her experience working with people who have been through intimate partner violence, Sammut Scerri has met many who tell her that their partners 'made them the happiest and the saddest that they've ever been in their lives.' But this begins to bring up questions around what relationships should be like. 'They ask, how can someone love me, then say and do these horrible things

to me? How can someone love me and then hurt me this way?' This psychological struggle with core contradictory emotions is called dealing with cognitive dissonance, and it does not happen only to people within the abusive relationship. Children growing up in families where there is intimate partner violence are particularly vulnerable to this process, amongst a range of other psychological, physical, emotional, and academic difficulties that they may suffer.

In her co-authored book *Intervening after Violence*, with Prof. Arlene Vetere, Prof. Angela Abela, and Dr Jan Cooper, Sammut Scerri describes the experiences of women who lived with domestic violence as children.

'The core contradiction seemed to be organised around love and fear,' she writes of her participants. 'My father loves me but he beats me until he almost kills me! How can [my] mother love my father but be afraid of him? How can my mother protect me from my violent father, and then insist that I love him and respect him?'

Looking at what can help people with these experiences, Sammut Scerri starts at therapy and support. 'In our experience, we find that both in therapy and in supervision, practitioners need to manage these contradictions and dilemmas,' she writes. 'Unless this happens, there is a danger that in listening to these horrific experiences of these family members, we can only make sense of them by constructing the perpetrator as >



The core contradiction seemed to be organised around love and fear. [...] How can my mother protect me from my violent father, and then insist that I love him and respect him?

“all bad”, and we may find ourselves minimising or pathologising the attachment experiences of these adult children with the parents who were abusive towards them.’

Sammut Scerri sees pathologising and victim blaming as a widespread issue locally and internationally. ‘I think that a lot of people who have gone through abuse are often viewed by society as “damaged goods”. When we pathologise people, we only look at the bad things that happened to them. We don’t look at their strengths and their resilience. We don’t look at their successes.’

The gender-based violence survey conducted by the European Commission in 2016 justifies these concerns, particularly on home shores. The report states that a staggering 40% of Maltese respondents ‘hold the idea that violence against women is often provoked by the victim.’ A further 47% also believe ‘women make up or exaggerate claims of violence.’ And yet another 30% believe that at least

one situation justifies having sexual intercourse without consent. Even the Maltese courts have shown themselves to be largely unsupportive of victims. In June, a soldier was conditionally discharged and allowed to keep his army job after he fractured his wife’s leg, upset over her Instagram photo.

A culture shift clearly needs to happen. ‘We need to address issues around gender inequality, and abuses of power and control in intimate relationships,’ Sammut Scerri says. ‘The idea that men are entitled to be men, that it’s okay to be aggressive, the fact that women are reared to take care of relationships. That everything is acceptable as long as you keep the family together.’

CALLING FOR UNITY

Before that happens though, Sammut Scerri also concedes that she prefers to remain solutions-oriented. ‘I prefer to focus on what we can learn and do, rather than on the hurdles. The hurdles will always be there. It’s a bit like climate change

and the environment. You focus on what you can do. Otherwise you start feeling frustrated and you’re not able to help other people.’

Sammut Scerri admits, however, that working in the field is complex and tough. It is easier to start feeling desperate when you are faced with these challenges coming from different institutions that deal with victims and their families, such as the law courts and the police. One needs to acknowledge that some progress has already been made in the form of training for Maltese law enforcement, but this is not enough to make a cultural change in people’s attitudes. We also need to focus on educating young people to recognise the signs of what could turn into an abusive relationship, so that they are able to stop these dynamics early on. All of this is in line with the recommendations by the World Health Organization together with the United Nations Development Programme and the United Nations Office on Drugs and Crime, who



Dr Clarissa Sammut Scerri
Photo by James Moffett

PROFESSIONAL HELP FOR CASES OF DOMESTIC VIOLENCE

Kellimni	kellimni.com
SupportLine	179
Police Emergency Line	112
Legal Aid	25674330
Victim Support Malta	21228333
Social work unit Gozo	21556630
Mental Health Malta	23304313
Dar Merħba Bik	21440035
Dar Emmaus	21552390
SOAR Support Group (SJAF)	21808981
Women's Rights Foundation	79708615
Rainbow Support Services [LGBTIQ]	21430009
Fondazzjoni Dar il-Hena	27888211
Programm Sebħ - Dar Qalb ta' Gesu	21482504

Read more:

Shreeves, R. and Prpic, M. (2018). Violence against women in the EU. [ebook] European Parliamentary Research Service. Available at: <https://bit.ly/2Sdy0Z7>

identified seven evidence-based strategies that can prevent violence.

With the rise of organisations like Aġenzija Appoġġ, Victim Support Malta, Women's Rights Foundation, SOAR, and Facebook Groups like Women for Women working to provide support to those in difficult situations, it seems Malta is moving in the right direction. Sammut Scerri lauds their efforts. 'Activists are working really hard. And there has been lots of progress in terms of working towards making violence a crime and [making it clear] that it's an abuse of human rights rather than something private. But we must continue,' she says.

THE HAZARDS OF LEAVING

One thing we could do less with is the naive chants of 'leave' and 'leave now'. Blaming women for staying in their abusive households and abusive relationships needs to stop. Judgement can come in thick and fast from both men and women, but the reality is that 'when a woman leaves,

there is six times the risk for her to be killed,' Sammut Scerri reveals. 'These things are not that simple. There are children involved and, many times, financial constraints. What can people in such situations do? What are the services out there they can access? Those are the questions we need to be asking. The effort needs to be planned well, with safety in mind and the support of the authorities and the community.'

Francesca Fenech Conti, founder of an award-winning Facebook community Women for Women, sifts through pleas to post anonymous messages for other women to pitch in with experience and solutions. 'Sorry to bother you, Francesca, but...' some of these timid confessions begin. Having become a conduit for Maltese women trapped in difficult situations, Fenech Conti observes that of the 20 messages or so that she receives on a daily basis, '[the] ones that stand out the most are the ones from women still in their abusive relationships. They know they should leave. They

are suffering. But they just do not have the means, or anywhere to go. With the current rent situation and lack of affordable accommodation women have nowhere to go but to shelters. Many women fear that they will lose custody of their children and this prevents them from seeking or asking for help.'

Still, this is how a conversation begins. Sammut Scerri wants to see key institutions in society united against gender-based violence and domestic violence – not only organisations working directly with victims and their families, but everyone else. 'Everyone,' she insists. 'We need to keep saying that this is not on. It is not acceptable. And if you notice that something is going on with a friend, a neighbour, anyone, support that person until they seek help. It takes a while for some to realise that things are bad. So you need to be there to help when the time comes.' **T**

Make cognitive science your agony aunt

If you need to rekindle romantic feelings, your decisions should be evidence-based. **Lorna Muscat Baron** writes.

Open a lifestyle magazine or a casual discussion group and you'll see one problem discussed over and over again: how to keep love alive. Countless anonymous letters have been written, advice sought from friends, and sleepless nights invested in the wish to do so. But can these answers be found in science instead?

Pop science posits a theory which states that there are three main stages in a relationship — lust, attraction, and finally, attachment. However, this is not just hype, cognitive science supports it too. These phases are paired with significant biochemical changes that occur in our brains.

The **lust** phase is linked to the release of testosterone in men and oestrogen in women. Physical reactions to these hormones swiftly follow, from sweaty palms to an elevated heart rate. This process happens across the natural world — a drive to find a partner and pass on our genes.

The **attraction** phase sees the release of the chemicals dopamine, norepinephrine, and serotonin. These hormones are crucial to bonding and the feelings that love produces. Their effects were studied in 2005 by Dr Helen Fisher, who analysed brain scans from 2,500 college students to glean important information about brain activity. During the experiment, subjects were asked to look at photos of their loved ones and acquaintances. When seeing someone

they loved, their brains lit up in areas rich in dopamine.

Next comes bonding. And here the discussion centres around positive and negative brain pathways. The positive pathway has been known since 1954, discovered by James Olds and Peter Milner. The brain reinforces these neurons by releasing dopamine. 'As human beings we're group animals, so it would make sense that you have a hormone that rewards you for wanting to be in relatively close proximity to other people because that would mean you have a group,' explains Marthese Borg, a cognitive scientist at the Faculty of Media & Knowledge Sciences (University of Malta). The negative pathways on the other hand, the ones that make us critical of people and enable sound judgement on who to trust, those get shut off as soon as the brain realises we might have met someone with 'partner potential'. 'Honeymoon period', anyone?

Over time, however, **attachment** begins to develop between partners and these hormones give way to others, such as vasopressin and oxytocin. Vasopressin is the main player. When vasopressin was repressed in male prairie voles, monogamous rodents which form enduring social bonds with their female partners, they instead became neglectful of them, even failing to fight off competing males.

Why is this useful to our lives? Borg points to the widespread concern that after decades of marriage, the intensity of love within couples decreases. However, a study



Marthese Borg
Photo by Sarah Zammit

by Dr Bianca Acevedo *et al.* in 2012 debunks that belief. By using a technique which scans brain activity, fMRI, she showed that couples who still felt an intense feeling of love exhibited the same brain activity as couples who had just fallen in love. 'I found this really interesting because these researchers showed that the excitement and the feelings that you have in the beginning are there for some people

[till the end],' Borg comments. The scientists called this occurrence the rustiness phenomenon, and it gives the potential for a complacent love to be rekindled once more.

'If we understand exactly how this works, the power of touch and physical contact, you could even have better couple therapy,' Borg asserts. The potential application of this research could give us critical takeaways on preserving love and our most meaningful connections — may love never die! **T**

Further reading:

Olds J., Milner P. (1954). 'Positive reinforcement produced by electrical stimulation of septal area and other regions of rat brain.' *Journal of Comparative and Physiological Psychology*, 47:419-427.

Fisher, H., Aron, A., & Brown, L. L. (2005). 'Romantic love: an fMRI study of a neural mechanism for mate choice.' *Journal of Comparative Neurology*, 493(1), 58-62.

Acevedo, B. P., Aron, A., Fisher, H. E., & Brown, L. L. (2012). 'Neural correlates of long-term intense romantic love.' *Social cognitive and affective neuroscience*, 7(2), 145-159.



Unwrapping intimacy

*From drama groups to their own committee, people with intellectual disabilities are finding their voice to reject overprotection and prejudice as they pursue relationships. Researchers at the University of Malta are supporting them with evidence. Words by **Daiva Repeckaite**.*

'd like to have a family if that is the case, maybe have a family of my own, get married if that is the case. Just live a simple normal life like other persons do,'

Katrina (not her real name), who lives with an intellectual disability, told researchers. This longing – for being cared for, supported, and included in the community – is not only an aspiration for people with intellectual disabilities. It is their right. Still, research in Malta reveals that being in a romantic relationship is an elusive dream for many young Maltese who live with an intellectual disability.

When Dr Claire Azzopardi Lane (head of the Department of Disability Studies at the UM) interviewed nine individuals aged 18–35 with intellectual disabilities living with their families in Malta, she found

two who were involved in a romantic relationship. Their experience was very different from the rather isolated, overprotected world of most persons who share the same fate.

'Two participants in a relationship quoted in the article have supportive parents, who didn't want them to be alone for the rest of their lives. They would drive them or they would pick them up if they go for a date. They give them a safe space where [they can] be with their partner. They are worried about [risks] and rightly so, but they're navigating it in the right way,' she explains.

THOU SHALT NOT LOVE

The situation is not the same for everyone. Azzopardi Lane and other researchers have observed that many individuals are discouraged rather than

supported when they seek romance. Persons with intellectual disability are increasingly making their voices heard through theatre, sport, youth organisations, and the Commission for the Rights of Persons with Disability (CRPD), which convenes a Consultative Committee of People with Intellectual Disability. Yet their struggle for independence often hits a very soft and gentle barrier – the boundaries of their own home, and the attitudes of their families.

Mencap, a UK charity that supports people with intellectual disabilities, publishes extensively about romance and sexuality. In the organisation's view, romantic relationships offer fulfilment, reduce loneliness, and even help reduce health risks. On the other hand, predominant attitudes in Malta are far more [▶](#)



Dr Claire Azzopardi Lane
Photo by James Moffett

conservative. 'Parents might refuse to send [teenagers with learning disabilities] to sex-ed programmes; some believe that it's better if they don't know this,' Azzopardi Lane, who trains staff working with this group, observes. 'I've trained family members, who are about 25–45 years old, and one of them told me, "it's like chocolate, if you never tasted it, you won't know what you're missing."'

'The biggest challenge is an extreme lack of opportunities for persons with disabilities to explore, in a healthy manner, their own relationships with others. This could be because of overprotectiveness from the parents and a lack of financial independence,' Aġenzija Sapport, a national authority that supports and empowers people with disabilities, acknowledged when asked about the challenges faced by their current and potential clients as they pursue relationships. In her

paper titled 'Muted Voices', Azzopardi Lane emphasises the suppression of individuals' desires and aspirations in a society where the Church still exerts a powerful influence. Her interviewees reported feeling overprotected and dependent on their parents' transport and money to enjoy their social lives. 'Participants [...] did not wish to live the rest of their life cared for by their families. However, they were even more appalled by the possibility of having to live in an institution.' These establishments offer very different living arrangements for individuals, but none for couples.

'Our parents love us, but when they do [sic] overprotection it is bad,' observes Isabel Bonello in an article on overprotection, based on an inclusive study she initiated at the Department of Disability Studies. Living with intellectual disability herself, she led focus groups of people

affected by this, assisted by Dr Anne-Marie Callus. Research participants stated that, while they appreciated their parents' good intentions, they were tired of living their lives as if wrapped in cotton. Some did not own a mobile phone, were not taught to use public transport, or given pocket money. Student Michael Debattista's research (supervised by Azzopardi Lane) shows how overprotection stems from good intentions, but leads to a frustrating situation for young people: 'parental over-protection is an unconscious process, which stems from the assumption that people with disability "need protection".'

INDEPENDENCE DENIED

In a paper Azzopardi Lane and Callus wrote together, they state that one of the barriers people with intellectual disabilities face is the denial of their sexual maturity.



Whatever their age or knowledge, they are perceived as 'perpetual children'. Callus convened a workshop of young people with disabilities in July, and the participants agreed that she conveys their thoughts to THINK. They pointed out how overprotection affects Maltese youth without disabilities as well. Yet when disability comes into the picture, young people are 'perceived as more fragile, [...] and it tends to last much longer than it does for non-disabled adults.' Families do not trust these individuals' abilities, and fear 'being labelled as neglectful for promoting independent living to their children with disability.'

Romance while living with an intellectual disability is still a taboo that extends even to groups generally sympathetic to disability causes. Having reviewed academic literature, Debattista found that most people view those with disabilities as 'incomplete' and 'undesirable' because of idealised physical norms. Even his own research participants with physical or sensory disabilities felt strongly against dating persons with intellectual disabilities or mental health conditions. 'Although I am a person with [sic] physical disability, [my partner] would not stay with me 24 hours a day, but with such people you need to stay 24 hours with them,' one thought. Monika Parchomiuk found a similar hierarchy of disability in the attitudes

of Polish students despite the fact that these students were preparing to enter occupations like nursing, that would ultimately serve persons with disabilities.

Even when individuals with intellectual disabilities successfully prove their independence, they hit another cultural barrier. 'Then there is this idea that persons with an intellectual disability are not meant to have intimate relationships because they may not have the capacity to consent and be able to understand the responsibilities of marriage. Malta is generally Roman Catholic, and in Roman Catholic beliefs sex is meant to happen within marriage and is for procreation, not pleasure,' Azzopardi Lane observes. 'Sometimes [values are] used as an excuse to deter them.' Furthermore, parents find it very difficult to accept sexual expression and intimacy needs that are not heterosexual, or gender identity that is not cisgender.

Non-standard sexual expression does not match the view that people with intellectual disabilities are innocent and angelic. 'Do they find people attractive?' 'Do they kiss people?' – these were some of the insensitive questions Debattista's research participant, who works in a residential home, heard from outsiders. In reality, 'persons with disability have sexuality, and they are exploring and expressing it, which is something normal and natural,' says Azzopardi Lane. ▶

ONE SIZE DOESN'T FIT ALL

Yet her research shows that conservative values hold this group back. Dependent on their families to socialise, excluded from teenagers' social circles, youth with disabilities lack alternative channels to meet and learn from other young people. 'One of the biggest concerns is that persons with intellectual disabilities prefer to socialise with other peers with intellectual disabilities. This minimises the possibility of having people with intellectual disabilities get into an inter-able relationship. Is it because they do not feel welcome by non-disabled peers?' asks Commissioner for the Rights of Persons with Disability Oliver Scicluna. Lack of experience may lead to idealistic notions of love and family, as well as a lack of age-appropriate and up-to-date vocabulary to discuss their needs and experiences. Researchers observed participants using words like 'making babies' to discuss sexual intercourse.

Researchers attribute these

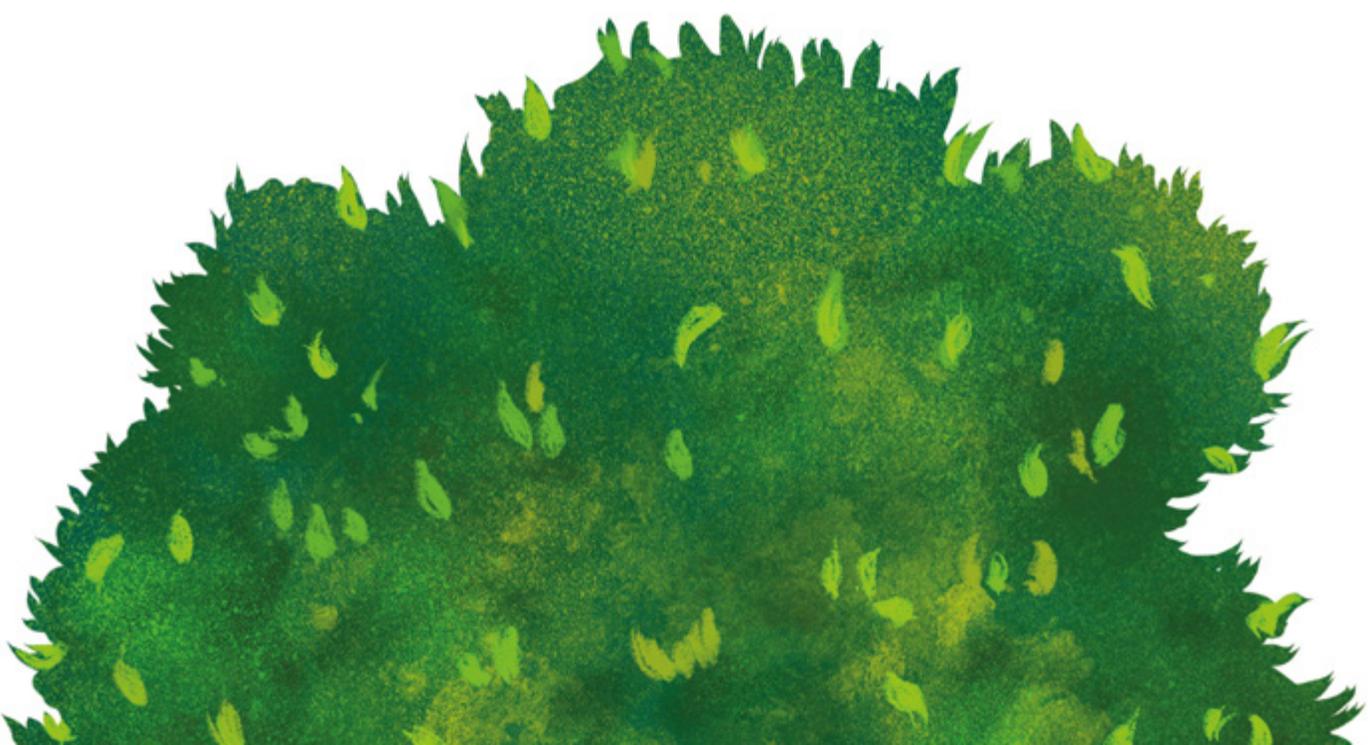
attitudes to a lack of tailor-made education on sexuality and intimacy. This can result in socially inappropriate behaviour, such as touching one's genitals in public, which others then use to stigmatise people with intellectual disabilities and further deny their independence. Instead, people with intellectual disabilities need education with a lifelong approach. It may require repetition, a slower pace, and adequate resources – including visuals specifically produced for their needs. 'You can't expect a person with an intellectual disability to be told something when they are 15 and to remember it when they are 25. They may not be literate, they may not have access to the Internet. What they know is what other people tell them or what they experience,' says Azzopardi Lane.

Access to education is shifting. According to Aġenzija Sapport, its clients have expressed a wish to know more about these topics. Multi-disciplinary teams of professionals hold sessions for the agency's clients – Azzopardi Lane is

involved in providing groups of these professionals, as well as parents and siblings, with evidence-based insights. The Agency's outings within its *Sharing Lives* programme, as well as participation in youth organisations and Special Olympics, give young people with intellectual disabilities an opportunity for unsupervised leisure, which helps them meet new people and combat loneliness. Recently, Arts Council Malta and the CRPD ran a theatre project titled *I Am Sex-Able* for people with intellectual disabilities to express their sexuality.

TREAT US AS EQUALS

More inclusive policies are in the works. Scicluna mentions the Personal Autonomy Act (currently being drafted with the support of CRPD), which should empower disabled people to receive the necessary support and guidance. Azzopardi Lane argues that it is time to shed the idea that disability is a tragedy and our drive to respond with charity. '[When] we represent





them as childlike, needy, always asking for money, that reflects on society. It downgrades them.'

In preparation for an upcoming conference by CRPD in collaboration with the Department of Disability Studies, participants at the workshop on overprotection argued for being accepted for their own merit and individuality, for being respected, not pitied, and having privacy. Their voice, just like the title of the conference, says loud and clear – Protect and Let Go. **T**

Further reading:

Azzopardi Lane, C.L., Cambridge, P., & Murphy, G. (2019). 'Muted voices: The unexplored sexuality of young persons with learning disability in Malta'. *British Journal of Learning Disabilities*,00:1-9.

Callus, A.M., Bonello, I., Mifsud, C. & Fenech, R. (2019). 'Overprotection in the lives of people with intellectual disability in Malta: knowing what is control and what is enabling support'. *Disability & Society* 34(3): 345-367.

Michael Debattista. *Persons with Disability and Intimate Relationships: Realities in the Maltese Context*. Master of Arts dissertation in Disability Studies, University of Malta, 2015

Love (in) Letters

Literature shapes our understanding of love, from Romeo and Juliet to over-quoted phrases before Valentine's Day. It continues to influence the way we relate to the complex emotions and quests surrounding love. Literature experts **Prof. James Corby** and **Prof. Adrian Grima** (University of Malta) share their thoughts about the cornerstones of the literature of love with **Daiva Repeckaite**.

Words in different languages simultaneously disperse into a warm

summer night, bounce off the walls of Fort St Elmo, and gently vibrate in the fortification's stones, ears, and memories. Local and visiting writers meet at the Malta Mediterranean Literature Festival and, as has become customary, translate one another's work to read aloud to the festival's multicultural audience. Bilingual Maltese poet Antoine Cassar takes the stage to speak about how he used to mix various languages in his own poetry before gradually shedding them in favour of Maltese, which for him was the language of familial love – and of domestic violence. Malta is where English literary experiments, powerful influences from Italy, along with local quests for making sense of love and community come together. Below are two short snippets reflecting two expert analyses on selected periods in Maltese and English literature.

ON MALTESE LITERATURE

'Up until Independence, and partly even afterwards, Maltese male-dominated, heterosexual love poetry

was conditioned by the norms and discourse imposed by the Catholic Church. The narrative of the so-called "traditional nuclear family" meant that many everyday experiences never made their way into [Malta's] traditional literature,' says Maltese literature Professor Adrian Grima.

'The stylised Maltese nuclear family constructed by Dun Karm and other romantic poets and novelists has survived the social and cultural changes brought about by World War II and Independence,' Grima asserted in his 2006 analysis of familial love in literature in a paper titled "Fashioning' the Maltese Family". In his view, the Maltese literary tradition takes nuclear family for granted, but only in its idealised form. 'The patriarchal father solidly at the helm; the dedicated but ultimately submissive mother tied very much to the home (she is the family's 'unsung hero' and its 'moral pillar') with lively but ultimately submissive children.'

'The influence of Italian romanticism looms large over our literature,' Grima points out. But he is quick to add, 'When we read their works, we often forget that they are constructing a narrative and not documenting sociological phenomena.' He cites

research by historians like Frans Ciappara to show that the Maltese family in the second half of the 18th century was worlds apart from its romantic representation. For starters, marriages in traditional Maltese society lacked affection. 'Ciappara suggests that there was little time for the couple to be by themselves because the community was closely involved in the family's life and consumed much of their time. And the structure of their houses made sexual privacy practically impossible. Marriage was centred on having children, not love,' Grima concludes.

After Malta acquired Independence and gradually shed the restraints of religious conservatism, writing about love and family got a breath of fresh air as well. 'The post-national (or cosmopolitan) generation that started to take over in the 1990s has rewritten, and continues to rewrite, the national literary narrative,' Grima says. 'For example, in his prize-winning cycle of poems called *Erbghin Jum* (2017), Antoine Cassar took the strains of love within the (idealised Maltese) family to a whole new level with his heart-wrenching account of domestic strife and violence. This collection, that has touched (and shocked) many readers to the core, challenges the



taboos surrounding representations of the family in Maltese poetry.'

Grima remarked that rebellious female characters in prominent works of Maltese post-Independence writers have a hard time shaking off protective paternalistic relationships. In numerous stories, escaping an oppressive family results in creating another one.

Towards the end of the last century, Maltese literature opened up to more diverse voices, including female authors. 'The crucial moment, I think, was the publication of Maria Grech Ganado's (belated) first collection of poetry in Maltese, *Iżda Mhux Biss* in 1999,' Grima continues. 'In fiction, contemporary female writers like Clare Azzopardi, the Maltese-Australian anglophone writer Lou Drogenik, and more recently Nadia Mifsud in her short debut novel, are amongst those who are questioning the model. But they are by no means the only ones.'

Which Maltese writer should we add to our lovely reading list? 'Immanuel Mifsud's alarmingly beautiful *In the Name of the Father (and of the Son)* (2010), has already become a classic, not least because of the way

it bravely straddles deep emotions, memory, psychoanalytical and feminist discourse, and literary genres. In many ways, this audacious work has redesigned not only the narrative of familial love but also Maltese literature itself,' Adrian Grima recommends.

She still bends over to paint her toenails.

She still wants to wear lace under her clothes, to redden her lips, to apply green eye shadow.

She still tempts her husband at night – her husband who's left, forgetting his suitcases behind. Every morning she wakes up singing Casta Diva.

— Immanuel Mifsud, *At Dar Sawra* (home for the elderly)

ON ENGLISH LITERATURE

'Love is incredibly hard to define. It is a supremely capacious and accommodating concept. It can involve intoxicating lust, deep care for another's wellbeing, devotion, and so on, without being reducible to any of these things individually. It can be possessive, selfless, selfish,

jealous, transgressive, unrequited, painful, joyous and – perhaps – pure. It can be felt for lovers, family members, friends, gods, even one's country,' outlined Prof. James Corby while discussing love in 20th-century English literature.

His observation is that during the previous century a more sceptical view of love developed. As Jeanette Winterson says somewhat deflatingly in *Written on the Body*, "I love you" is always a quotation.'

The deconstruction of love was, in part, inspired by psychoanalysis. 'This sort of sophisticated understanding of love led to a default expectation of ulteriority. In other words, it discouraged taking love at face value – there must be something else going on,' Corby summarises. "I love you" no longer meant what it seemed to mean,' he states.

Instead, read psychoanalytically, the phrase expressed something else – a desire for security, wholeness, or cultural conformity.

And yet, unsurprisingly, a more straightforward and naive conception of love persisted as a powerful force in the cultural imaginary.



'Simon May, in his book *Love: A History*, attributes this to love gradually coming to replace religion as the organising principle of our lives. As he points out, idealised conceptions of love tend to be underpinned by beliefs that mirror the way major religions view God and devotional practice — love is unconditional, eternal, and selfless,' explained Corby. 'As the sway of religion declined, and as other age-old communal certainties came to be usurped by widespread individualism, love — an ideal conception of love as absolute and redemptive — became ever more important as a source of comfort, security, and identity.'

He admits personally favouring the naive variety over the suspicious view that love is always about something other than love. 'Let's face it, we have enough to be cynical about,' he points out. 'Ironically, this view is supported by some of the most clear-sighted and sceptical writers of the twentieth century. 'Love loves to love love,' writes James Joyce in *Ulysses*. Samuel Beckett — whose work is synonymous with bleakness and despair — often portrays love's capacity to endure and gives some sort of meaning to an otherwise meaningless life (the French philosopher Alain Badiou remarks on this in his book *In Praise of Love*). The playwright Sarah Kane surprised many when she claimed that *Blasted* — a play that shocked the world with sordid scenes of rape and infant necrophagia — was all about love, love that endures the worst and still survives.'

This tension between the sceptical and naive view of love is brilliantly dramatised in an experience recounted in a poem by the famously pessimistic writer, Philip Larkin. The poem describes a visit he made with his girlfriend, Monica Jones, to Chichester Cathedral.

Viewing the ancient carved effigies of a husband and wife on a grave, he notices, 'with a sharp tender shock', that the man's left hand is withdrawn from its gauntlet and is reaching over and holding the hand of the female statue. Corby says, 'His immediate response is to try, rather sceptically, to rationalise and downplay the scene: "They would not think to lie so long. / Such faithfulness in effigy / Was just a detail friends would see". In the final stanza, however, he works his way through marvellously hedged and equivocating language to arrive at a breathtaking final line that, in my view, vindicates the naive conception of love:

The stone fidelity

They hardly meant has come to be

Their final blazon, and to prove

Our almost-instinct almost true:

What will survive of us is love.' 

Further reading:

James Corby (2012). 'Blake, Yeats, Larkin: nihilism and the indifferent consolation of Post-Romanticism, *New Questions on Literary Criticism*. Istanbul: DAKAM Publishing, 2012. 159-169 [available on OAR@UM]

Adrian Grima, 'Fashioning' the Maltese Family', *The Family, Law, Religion and Society in the European Union and Malta*, Ed. Peter G. Xuereb. Malta: EDRC, University of Malta, 2006. um.edu.mt/_data/assets/pdf_file/0003/145623/Maltese_Family.pdf

LIGHT YOUR OWN FIRE



*An innovative project is promising total independence of the local energy grid. **Veronica Stivala** plugs into the brains behind the revolutionary idea of a heat and power machine.*

An electrical generator that will free us from reliance on the grid is slowly nearing completion. Such devices are already used around Europe for central heating in homes, and promoted for use in residential and light-commercial buildings in Japan. Yet the University of Malta (UM) team have honed in on one unique factor: households will be able to disconnect their own combined heat and power (CHP) devices from the grid.

Prof. Joseph Cilia and his team of researchers at the Department of Industrial Electrical Power Conversion are developing a CHP machine that will provide electrical and thermal energy for households. According to the European Commission's Energy Union Factsheet, Malta has a low demand for heating compared to other EU countries, but many households state that they are unable to keep their houses warm in winter.

Currently the CHP devices available require an external electrical grid to run. On the other hand, users of this UM team's CHP device can hook theirs to an independent inverter, which transforms the direct current generated in the device to alternating current (AC) used by appliances. This way households can consume the electricity generated by the machine. The heat produced can also be directed to a boiler, water tank, underfloor heating, or elsewhere, giving the household added flexibility and freedom when it comes to its energy consumption.

These devices close the self-reliance gap between fossil fuel powered devices and green energy generators. Most solar

panels require an existing AC supply to operate, plugged to the local grid. No matter the energy generated, the household is still dependent. Solar panels work best when integrated into a larger system with other energy-generating devices to act as a consistent backup. What the UM team is proposing is to use the generator in combination with solar energy and a battery to store that energy. This gives the user autonomy from the grid, as well as the option to use cheaper, greener alternatives.

Being able to produce, store, and use your own energy is the goal behind this research project. The CHP machine currently relies on an external source of energy to get it going in the first place — an LPG (Liquefied Petroleum Gas) cylinder for instance. LPG gas is the best option the team has found, being cleaner than other fuels and easily available. While that might sound like a catch, Eryl Vella, one of the team's engineers, explains that any fuel is used as efficiently as possible, and they have plans to run their engine on ethanol. Ethanol can be made from plants. They are aiming for 90% efficiency by recovering and using energy escaping from both the engine and exhaust, which is much more efficient than car engines.

'We are hugely in favour of renewable energy,' stresses Vella, adding that their aim is to use combustible fuels efficiently to fill in the gap where green energy currently lacks. The team is also working on turning it into a standby generator which, in a country notorious for its numerous power cuts, will surely be a relief. They have included a small battery backup so that if the power goes out, the CHP 



A previous prototype, which is aesthetically closer to what the final product will look like. The team has since then shrunk it to a more reasonable size.

device can provide around 3.5KW of electrical power (enough for three ACs), and some 6KW of heat.

As the project matures in its testing phase, and the reality of being able to have a CHP appliance in your home inches towards reality, Vella explains what exactly this would entail. One of the primary advantages of this device is its size – roughly around that of a washing machine, meaning it can easily be tucked away in a cupboard. When asked about the dangers this could incur, Vella says it is comparable to the danger of having a gas heater or gas hob indoors. Yes, having a compressed flammable substance indoors comes with its own risks, yet they 'will introduce as many safety measures as possible, such as gas and temperature sensors. These will ensure the device won't overheat. It will sound an alarm to alert the user should it detect any hazardous gas leaks. These sensors could then be used to immobilise the device should any potential danger be detected.'

The CHP water loop can be connected to the ports of the user's choice, be they the water tank or

underfloor heating. The team is aiming for a wireless interface, which means you would not need to press anything. It would be accessible through an app and the goal is 'to have it completely run from your smartphone or tablet.' People would be able to control their device and energy distribution around their home.

When it comes to maintenance, this should be a breeze: the device runs on brushless technology, so there is no friction. It will require little to no maintenance. Indeed, the device uses LPG, is housed in a closed-off environment, and running on constant revolutions per minute like a motorcycle – meaning that the frequency of turning is predictable. It will only need an oil change every once in a while.

The next stage of the project is an experiment in immersion. The four prototypes plus the original CHP device will be installed in five houses and run for a period of at least one year. The team will then gather data for the engineers to accurately calculate energy savings and tweak

People would be able to control their device and energy distribution around their home.

their product to perfection.

When can we expect to see the CHP machines on the market? A conservative estimate is 2022, says Vella, whose team have their eye on the local and international market. At an estimated cost of €4,500 per unit, generating all our own energy and thus having more freedom and control in its production is fast looking set to become a reality. **T**

The project, titled A Smart Micro Combined Heat and Power System, is financed by the Malta Council for Science and Technology, for and on behalf of the Foundation for Science and Technology, through the FUSION: R&I Technology Development Programme.

 MALTA
INNOVATION
SUMMIT



HILTON MALTA
11TH OCTOBER **2019**



UNDERSTANDING MOTORCYCLISTS FOR SAFER DRIVING



Motorcycle riders are often seen as risk takers, branded as transportation scapegoats. Until now. Prof. Ing. Philip Farrugia and his team at the University of Malta are shedding light on the issue of road safety and critical needs for keeping the community safe and reducing deaths.

Motorcycles are exciting. They offer a compact, agile, and fuel efficient means of personal transportation, which makes them very popular. According to the National Statistics Office (NSO), the number of motorcycles and e-bicycles increased by 11% last year as drivers struggled to outsmart road congestion.

Yet, motorcycles are dangerous. Despite only making up 7% of all licensed road vehicles in Malta, according to the NSO, they were involved in 33% of fatal accidents registered in 2018. Motorbikes leave the rider more exposed to risk,

when compared to cars. The riders' movement and positioning have a much larger impact on their bikes. If the rider tries to adopt an unnatural position, the chances of making a driving manoeuvre error will increase by nine times, leading to accidents, the Motorcycle Safety Foundation warns.

There is disagreement on the common causes of motorcycle accidents. Some argue that most are caused by over-speeding, others claim that they are due to the rider's inexperience. But while the Directorate-General for Mobility and Transport of the European Commission confirms that there is a relationship between accident risk

and speed, there is more to this than meets the eye. A few years ago, most accidents happened during weekends when motorcyclists would be riding for leisure and over-speeding. Nowadays, Malta is experiencing numerous motorcycle accidents on weekdays, indicating that with the rise in traffic density, accidents are more likely to stem from carelessness and disregard for traffic regulations.

To reduce the risk of accidents, we have to make sure motorcycle riders are skilled, as well as comfortable and concentrated while riding. It would also help if we could bolster riders' attachment to their bikes as this may motivate them to take better care of



Team from left to right: Prof. Ing. Simon Fabri, Denise Baldacchino, Adrian Vella, Ing. Sean Aguis, Prof. Ing. Philip Farrugia

their vehicles and generally be more cautious when driving.

On the manufacturers' end, designers need to listen to what riders and stakeholders have to say on current motorcycle challenges. Focussing on unmet needs is crucial for developing innovative solutions.

To improve novice drivers' skills and find the best geometrical fit for them, the Department of Industrial and Manufacturing Engineering and the Department of Systems and Control Engineering (UM), in collaboration with WKD Works Ltd, have joined forces to develop a comprehensive motorcycle-ride virtual simulator. This is the essence of the RIDE+SAFE project, which will simulate Maltese traffic and accident scenarios. Using a novel jig immersed in a Virtual Reality (VR) environment, the simulator will improve riders' handling and control of their vehicle. Eventually this will lead to guidelines for motorcycle designers and engineers to improve the safety of their products.

To ensure that any patterns and trends detected are consistent, the research team chose methods that offered a mix of depth and scope. Firstly, one hundred and thirty motorcycle riders in Malta were asked to participate in a survey. We learnt that most of the riders experienced pain in the upper part of their body, particularly in their neck. This was followed by wrists, arms, back, and shoulders.

Consequently, these riders suggested that the motorcycle's main features that have an impact on the control of their riding are the handlebar and seat adjustments, followed by the shock absorbers adjustment.

Predictably, the survey confirmed that a less experienced rider is more likely to have an accident when compared

to experienced riders. On the other hand, interesting results emerged on the reasons why motorcyclists feel the need to make changes to their vehicle: 65% to increase comfort and safety, 21% to improve aesthetics, and 14% to enhance motorcycle performance.

In parallel, relevant stakeholders were invited to participate in an open discussion (focus group session) to highlight current motorcycle problems which hinder safety and decrease riders' comfort. Through thematic analysis of the data, we distilled customer needs. Some were identified as being essential to quality, having a high priority for the team designing the simulator. The most important feature was to have a simulator which can be realistic and tailored to the rider.

The design team then translated the needs gathered from the survey and focus group session into critical-to-quality engineering characteristics for the RIDE+SAFE simulator. The team is currently building a prototype at the UM. In the future, the simulator will be portable, and the ongoing usability study will show where to station these machines.

Ultimately, we hope to have the widest possible positive impact. To clear the bad reputation some bikers are unfairly burdened with, to help bikers get the vehicle of their dreams, and to keep people safe and alive. **T**

The team is led by Prof. Ing. Philip Farrugia. Team members include Prof. Simon Fabri, Ing. Sean Aguis, Denise Baldacchino, and motorcycle expert Adrian Vella. The three-year research project - RIDE+SAFE (R&I-2017-003T) is financed by the Malta Council for Science & Technology through the Technology Development Programme 2018.

IDEA

HOW BEEP IS YOUR LOVE?

Love is mysterious territory for many. Particularly when we talk about love between a human and an artificial being. **Prof. Alexiei Dingli** writes.

You may raise an eyebrow here, but the truth is stranger than fiction. This year, a Japanese man is celebrating a decade of marriage to a video game character named Nene Anegasaki. In 2017, a contemporary reincarnation of the Pygmalion character, a Chinese Artificial Intelligence engineer, married a female android he built.

So one might ask, what is the prerequisite for a person to be attracted to another entity?

This question has taunted philosophers since the dawn of time and I'll try to answer it through association, starting with the most basic feature – their humanness. We are attracted to beings that exhibit human properties. Sometimes, this is a matter of appearance. Photorealistic avatars have come a long way in today's day and age.

Pioneering the technology are companies like the new Virtual Reality (VR) porn startup Holodexxx that employs VR to give their clients a fully interactive and customisable sex experience involving both real actors and avatars. The avatars can be created either through digital scans of real pornstars or they can be entirely virtual characters.

Since avatars can be made to specification, we start approaching the boundaries of what is acceptable and what is not. It could be that some people might be attracted to a centaur, and they can now fulfill their desires with VR. But what if the attraction is towards a little virtual child? Despite being illegal in our real-world society, cases of abuse still occur. The same goes for online worlds where it is unfortunately easier for people to have these sorts of encounters. In 1998, Sky News investigators



Prof. Alexiei Dingli

discovered a paedophile playground called Wonderland, hidden inside a virtual world called *Second Life*.

Even brothels are discovering the power of robots to replicate the feel of a real person. Barcelona-based sex doll company LumiDoll is opening brothels across the continent, offering



robotic sex workers with recognisable and relatable characters; such as the anime-inspired blue-haired Aki or the angelic Lilly. The company claims that users will 'hardly distinguish' between the dolls and real women since they are made using thermoplastic elastomer, a polymer renowned for its softness.

But physical aspects are just one side of human intimacy. What about intellectual engagement and meaningful communication? To fulfill these needs, the tech world has produced chatbots.

A chatbot is a computer programme capable of engaging in varying levels of conversation. There are various options, ranging from virtual girlfriends or boyfriends to anything else your heart desires. The intellect of the chatbot is rather questionable, but for some it can be enough to serve as a companion for a stress-free conversation in their free time. Some of these even have a

great sense of humour that keeps the person bonded with them. Jealous lovers beware, however. Microsoft's Ruuh, a virtual friend that was online in 2017, had over 30 billion conversations during its lifetime and received 600 'I love you' messages every day!

Before we all start raising our pitchforks though, this might be a good time to remind ourselves that not all machines aim to replace humans. Technology can act as an intermediary to help transfer the intimacy of one person towards another. A simple text or video chat can be used to connect two hearts located on opposite sides of the globe. Lovers can also meet inside virtual worlds providing them with 360° freedom. Kissenger by Lovotics is a technology that can transfer real kisses. A person kisses a robot and that kiss is relayed to another person located in a different place.

The possibilities of these new technologies are endless. That is why at the Department of AI (University of Malta), we research mixed-reality applications focusing on empathy. Our goal is to create better machines that can satisfy not just the functional needs of an individual, but also the emotional ones.

As we have seen, there are different ways of interacting with robots, both physically or virtually. This doesn't mean that these are examples of love, but they definitely exhibit some form of connection. What is certain is that our relationship with machines is going to evolve over time. The more human-like they become, the more we will find people engaging with them in an affectionate way. However, there is just one question we should ask ourselves. What if machines start loving us back? 

START UP



*The scent
collector*



After trying her hand as a chef and creative consultant, **Marina Fabic** discovered her true passion in marrying her refined palate and senses with a never-ending wanderlust to create a series of perfumes. **Chris Styles** writes.

When you think about the senses that inform your world, would smell come up at the top of the list? Probably not, despite the fact that everyone's sense of smell is unique.

Unlike other senses, olfactory nerves are hardwired directly into the primitive part of our brains. Smells can trigger the amygdala and hippocampus regions, areas of the brain that processes memory and emotion. This is why the smell of freshly cut grass or rain after a hot afternoon can transport you back to summers long gone. This is the very feeling that Marina Fabic hopes to capture in her scent creations.

Before setting off on her own, Fabic had worked as a creative consultant and chef at the high-end wedding venue Villa Bologna. Inspired by its beautiful surroundings and freshly grown produce in its vegetable and fruit gardens, she was able to create dishes which stimulated all of the senses. 'I always endeavour to balance flavours to create a bigger picture formed from different layers,' she says. Fabic's natural flair guided her to many innovative culinary ideas for the Villa,

but with that strong creative identity came a powerful drive to fashion something for herself.

An opportunity presented itself when a perfumer visited Fabic at Villa Bologna to discuss a collaboration to create a scent inspired by the sensations of Malta. But when they got down to brass tacks, the partnership proved too costly. Nevertheless, the idea lingered on in Fabic's mind. Never one to shy away from a challenge, she started learning how to capture scents on her own.

With her culinary background, it was Fabic's understanding that using fresh, raw ingredients would result in the finest products. Throughout her research, it seemed that the majority of her competitors opted for artificial scents, cheap substitutions. Fabic found her niche and set off to find authentic smells from their natural habitats.

This gave a new purpose to her love for travel. Armed with a trusty notebook, Fabic jotted down any pleasant odours she encountered, working hard to identify and isolate their fragrance. Throughout all of this, she had to develop her street smarts, to learn how to haggle, trade, and to spot a fake, she recounts: 'I had to become more cynical, but I was determined to find the source.' 📌





Marina Fabric





Listening to her, the journey sounds easy and straightforward, but this was not always the case. Sometimes she succeeded in finding the scent she was looking for, only to discover that it was very expensive — the essence of orange blossom, for example, demands a whopping €4,400 per kilo.

Eventually, her travels led Fabic back to one of her favourite places — Egypt. While touring the Nile, she managed to escape the crowds, with her guide providing a private tour which brought her to a temple dedicated to Isis, the Egyptian goddess of love and beauty. Fabic walked through the inner sanctums of this sacred place and entered a chamber. She was struck by a wall of hieroglyphs. Millennia ago, someone stood in the same spot and transcribed recipes for scented perfumes, written in literal stone. Fabic describes how ideas were ‘bubbling in the back of her mind’, and of course, she named her company after that temple — Phileae.

Phileae has come a long way from that scene on the Nile. Collecting the fragrances was only the first step — Fabic also had to learn how to distil them, extracting the essential oils and resins through solvent extraction, to

obtain a concentrated liquid essence. Occasionally, she had to scrap concepts she was not happy with, but she is convinced the hardships paid off. ‘There is no way I could go back to the mass produced perfumes,’ Fabic asserts. Her aim now is to broaden the expectations of what a perfume means to an individual and show people how the right fragrance can take them on a journey, providing a whole new sensory experience.

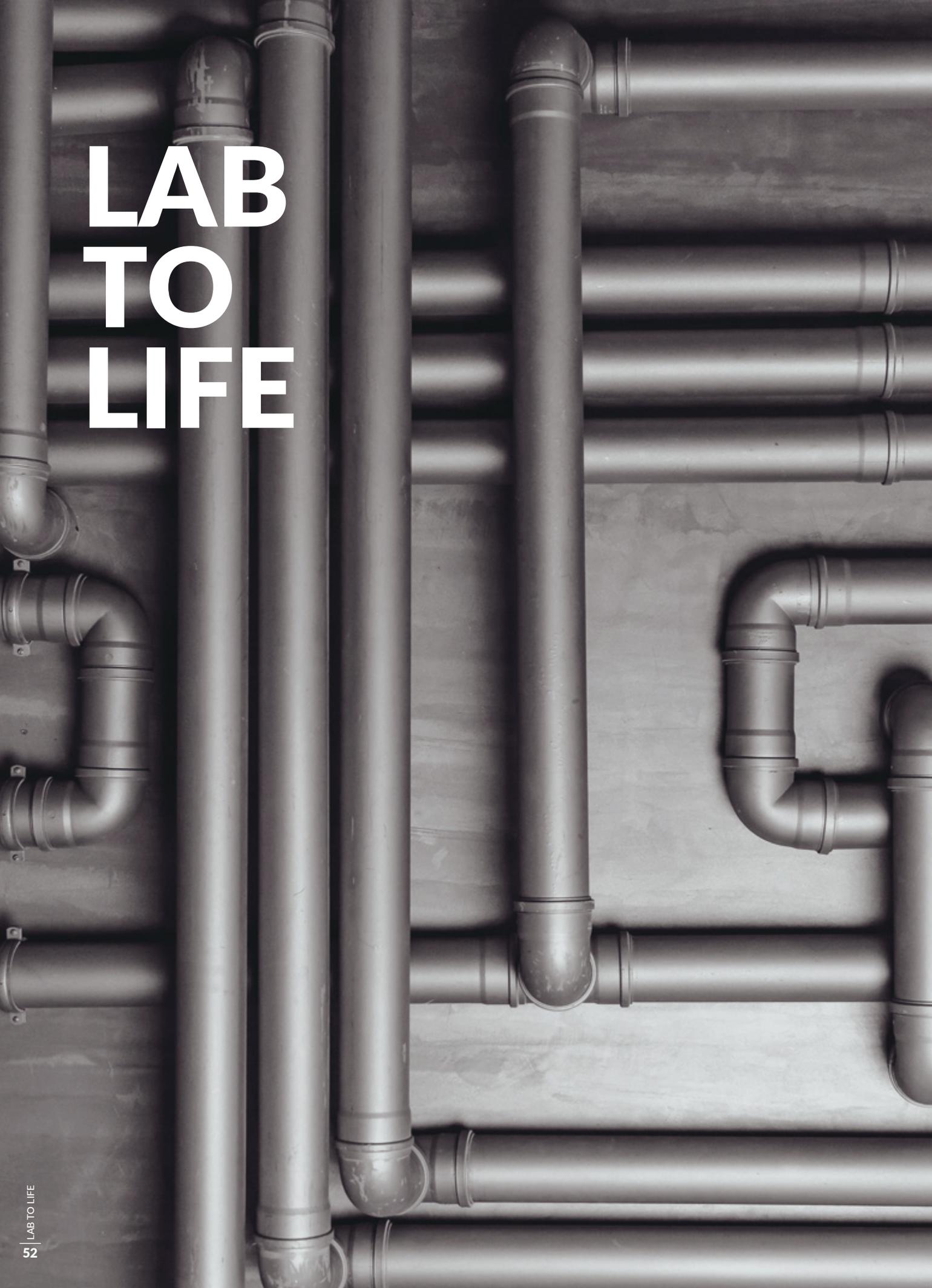
Despite the brand’s Egyptian origins and global sources of inspiration, Fabic does not think that Phileae would have been able to leap forward anywhere else but Malta. ‘It would have been much harder to start this in the UK or Sweden. There is much more back-up in a small country, such as the TAKEOFF business incubator,’ she says. Here she could consult with business experts to reduce her risks.

Currently, Fabic works from a home-laboratory. It’s a pretty basic set-up, with a collection of glassware and some rudimentary chemistry equipment, all housed within a temperature-controlled environment. At present though, she feels her business has outgrown the space, so her next step is to scale up production and move somewhere bigger, having

become one of the five recipients of the TAKEOFF Seed Fund Award.

The creative process she has undertaken at TAKEOFF has led Fabic to craft a bespoke service, where customers are able to create a unique signature scent. Sitting down with her clients, Fabic discusses which fragrances the client likes and specific memories which evoke good feelings. With this information, she can cook up a perfume which pairs these experiences and the right scent to create bottled nostalgia. ‘You think of a place like a library, with dusty books and leather chairs, and see what you can build from that,’ she illustrates.

It may be a hard sell to convince the majority of the population to splurge on a luxury item which might only be used on the odd occasion, Fabic admits: ‘It is so subtle, you can even argue that it doesn’t exist.’ Would such a product only be accessible to those with already expensive tastes? But as we say our goodbyes, colleagues at THINK are still sniffing their wrists, where samples of her alchemy-inspired perfume landed before the interview. The market of unique sensory experiences that Fabic is aiming to tap into is fragmented, but it is certainly there. **T**



LAB TO LIFE



RESEARCH RUNS IN THE FAMILY

Local industrial enterprises often approach the University of Malta for collaboration in their research. **Martina Borg** meets one of the family enterprises working with researchers to bring its founder's idea to life.

The old adage goes that necessity is the mother of all invention. Just ask the people contemplating innovative pole design in the deserts of Saudi Arabia if you doubt it.

Taking invention to the next level often requires plenty of sweat, sacrifice, and funds. Nephew and uncle Etienne Scerri and Felix Baldacchino inherited their family's dream, and they are preparing to launch their product locally.

'It all started with an idea I had while travelling on business in Saudi Arabia,' Silvercraft Products Ltd director Felix Baldacchino explains. 'I was told that simple structures like street poles often struggled with the harsh temperatures of the country, and that giving them a long life was costing the country some money.'

This conversation slowly germinated into an idea, which culminated in a simple sketch that Felix's father Francis, the 93-year-old founder of the firm, shared with his son. Silvercraft CEO Etienne Scerri, Felix's nephew, explains that this project is representative of the way

the family-owned business is run. 'Someone perceives a need from everyday life, and we all have a think and share ideas. In this case, my father came up with a small model of what this project could look like,' Baldacchino adds.

Invention has been a family tradition for the past 60 years. When Francis Baldacchino founded Silvercraft, the goal was to create innovative fibreglass products. Now the gene is being passed on — Felix's brother, who is also part of the company, has considerable expertise in the use of metal in structures, while Scerri affectionately calls his uncle 'the machine whisperer' for his technical mind.

'Development of [our] concept started back in 2007, and we created a two-metre-long prototype using our own funds after about three years of research,' Scerri says. 'However, the company soon faced a funding problem, so we reached out to Prof. [Duncan] Camilleri and pitched our idea,' he adds.

Head of the UM's Mechanical Engineering Department and project leader Duncan Camilleri ▶



Glass-fibre reinforced composite silo



Piping system in reverse osmosis plants



Glass-fibre reinforced composite tanks used for civil applications, such as drainage systems



Members of ARM-D-COP research team (from left to right): Neil Gerada, Etienne Scerri, Prof. Ing. Duncan Camilleri, Dr Brian Ellul and Felix Baldacchino

stresses that the department is keen on helping small companies turn passion projects into realities. Researchers are working with companies on projects ranging from energy storage to aerospace.

'We like to encourage employees to express ideas and brainstorm about research,' Scerri explains, flanked by former UM graduate Neil Gerada. Thanks to the company's close ties to the University, Gerada was able to conduct research with them for his degree, resulting in him joining the company after graduation.

Camilleri explains that Silvercraft has historically been supportive of students, with sponsorships for research and projects over the years cementing a collaborative bond between the institutions. This bond is one reason why Camilleri decided to jump on board this project and seek funding for it.

He adds that the 10-year relationship has allowed students to develop, optimise, and test features such as pressure vessels and pipe components used in reverse osmosis plants. 'We've already secured funds for another project with Silvercraft, looking into fibre-reinforced composite

structures [constructions that involve dissimilar materials] for civil application, and then, as now, we were presented with an inventive and well-researched idea,' Camilleri says. 'In both these situations, the company started off from a simple idea and a pioneering product, and presented us with initial research into how this can improve the market,' he continues.

Scerri chimes in to explain that although the use of fibreglass in poles is not news, there is a limit to the length and strength of Glass Fibre Reinforced Composite Poles (GFRCP). 'We believe we have found a way to surpass that limit and ensure that the poles are still strong enough to do their job,' Scerri says.

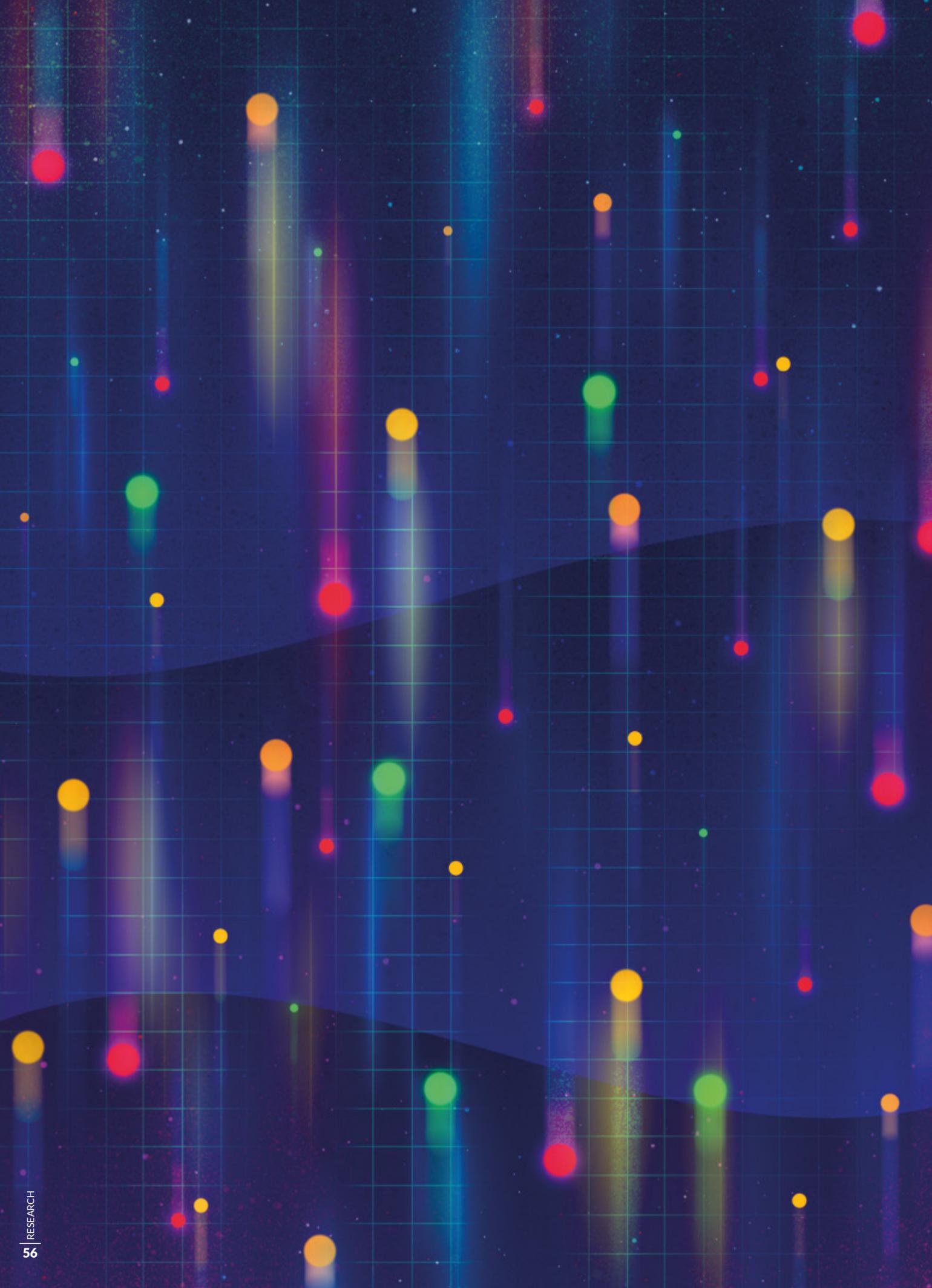
The implications of Silvercraft's project can be far-reaching. These poles would be able to take on heavy loads while remaining flexible, and since they are tapered they will require less material, making them cheaper – music to the market's ears. 'Products made in this way can range from electricity poles, crane structures, scaffolding, trusses, lattice structures for civil applications, and even wind turbines,' Camilleri explains.

He adds that UM, through funding

by the Malta Council for Science and Technology, immediately agreed to fund the creation of another, longer prototype, using this innovative technology. And this is the challenge they are working on now – an eight-metre prototype that will allow the company to roll out the product locally and test the machine used to build these poles for the worldwide market.

The road ahead for this team is still a long one, with further research and patents needed, but the sense of collaboration and support behind it is palpable. Capitalising on the different skills within the family, from technical savvy to management, is a part of the puzzle. The other part is reaching out to where complementary skills are. From a sketch to a prototype, from recruiting a student to approaching a research institution, working collaboratively pays off. **T**

The project 'Advanced Revolutionary Manufacturing Solutions and Development of Novel GFRP Composite Poles ARM-D-COP' is financed by the Malta Council for Science & Technology through FUSION: The R&I Technology Development Programme 2018.



A Quantum Leap for Communication

*A team of scientists from around the world has recently shown that quantum mechanics can be used to create a super-secure telecommunications link between Malta and Sicily. **Laura Bonnici** meets with the project's leader in Malta, **Prof. André Xuereb**, to discover how Malta could be pivotal in the development of a brand new communications technology.*

As über-scientific as quantum mechanics may sound – with Erwin Schrödinger claiming his cat is simultaneously alive and dead, or Albert Einstein wrestling

with quantum probability – it has many down-to-earth applications. Its proponents are convinced it can help us design better drugs and completely new materials.

Quantum mechanics looks at the microscopic building blocks of our world, describing and predicting their behaviour. Technologies powered by quantum mechanics make our lifestyle what it is, such as in the computer chips that put the 'smart' in your smartphone. New quantum mechanics-inspired innovations are taking place around the world, and Malta has now joined the fray.

An international team of scientists from Malta, Austria, Italy, and a host of other countries recently demonstrated a new kind of super-secure telecommunications link that builds upon the principles of quantum mechanics. Using specialised devices, the team was able

to transmit entanglement, a quantum property shared between particles of light, through a 96-kilometre-long submarine optical fibre cable that links Malta to Sicily through the Melita Ltd telecommunications network.

'We used entanglement, a property of quantum mechanics that Einstein called "spooky action at a distance." Thereby two particles are intimately connected and any action taken on one instantly affects the other, no matter how far they are apart,' explains Xuereb, quantum physicist and Malta's project leader.

While classical mechanics – stuff like Newton's laws of motion – defines the 'common sense' activity of everyday objects and talks about certainties, quantum mechanics deals with uncertainty. In the quantum realm, objects cannot have a definite position and velocity, making it impossible to simultaneously know where an object is and how fast it is moving. Yet this uncertainty doesn't hinder the theory's applicability.

'We entangled two particles of light, or photons, keeping one in Malta and sending ➔



Prof. André Xuereb

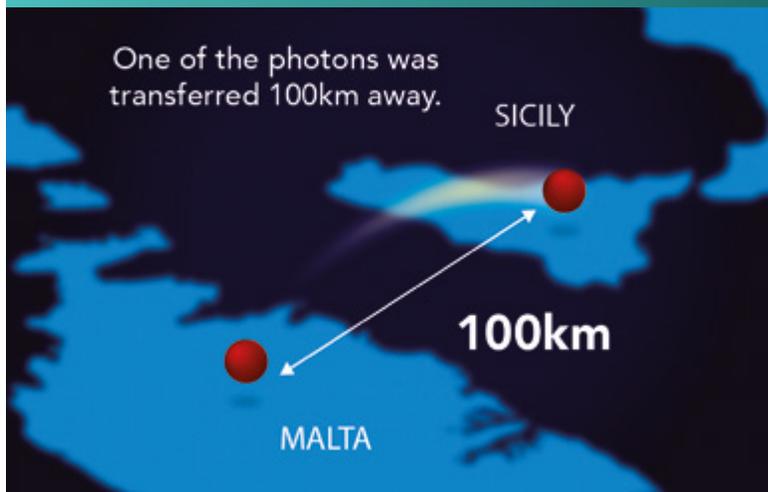
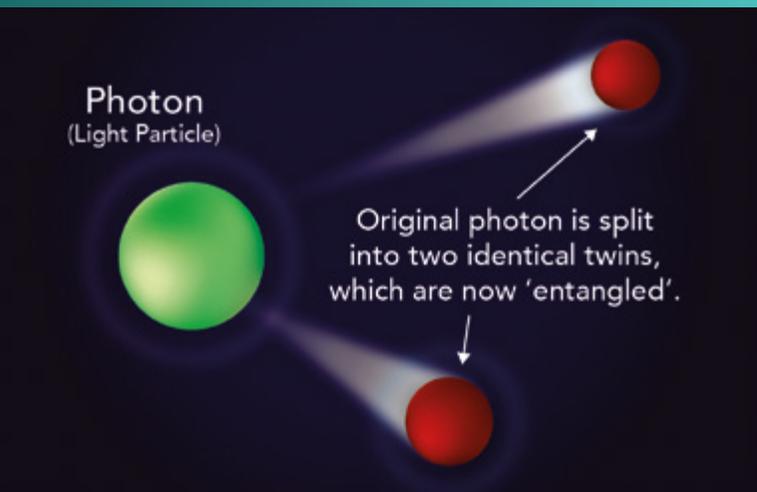
the other to Sicily,' Xuereb continues. He told TVM, Malta's national TV station, earlier this year, that the photons, once entangled, simultaneously produce identical measurements in two different places, without communicating with each other. These measurements can then be used to create the same secret number in two places without it having been sent from one place to another, which means it cannot be intercepted by criminals or governments. 'This could be used to share information safely, with unbreakable data security,' Xuereb elaborates.

'With quantum-secured communications, the actual mechanism to encrypt and decrypt is guaranteed to be secure by the laws of the universe.'

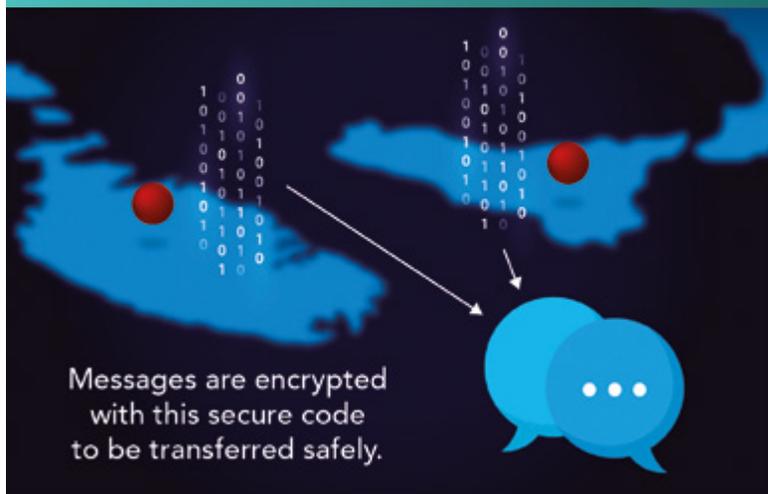
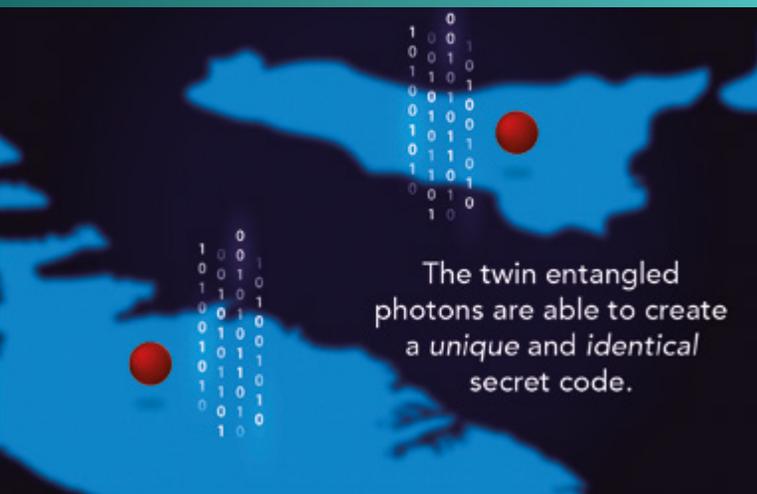
In a world where protection of data is paramount, the team's findings could pave the way for quantum-secured communications to be used routinely both in Malta and around the globe. 'This kind of technology will soon be protecting our most important data,' continues Xuereb, who has already seen some interest from Malta-based IT companies. 'At present, every single means we have for sending information from A to B can be broken into, through hacking or through vulnerabilities in the infrastructure itself. But with quantum-secured communications, the actual mechanism to encrypt and decrypt is guaranteed to be secure by the laws of the universe.'

The journey towards this ground-breaking project started in 2015 for Xuereb. He witnessed first-hand the rise of quantum technologies in conferences and laboratories all over Europe. He then considered if a quantum-based experiment might be possible locally, using the underwater cable between Malta and Sicily. Following a meeting in Vienna with one of the 'godfathers' of quantum optics, Austrian physicist Prof. Anton Zeilinger, and a discussion with the management team at Melita Ltd, Xuereb managed to finalise the plan for the ambitious project.

SUCCESSFULLY ACHIEVED



FUTURE STEPS



The team has broken the record for the longest distance over which polarisation entanglement of two photons has been shared through a telecommunications network outside of a laboratory environment. 'A team of scientists from Austria came over to Malta to check that the experiment is possible with the equipment available – and the results were better than we had dared hope for,' Xuereb explains.

'What followed was almost a year of trying to make it work, collaborating with the Italian team, and putting together everything from a made-to-measure plasterboard shed on the Malta end of the connection, to a van fully equipped to record the delicate measurements on the Sicilian end. It was very frustrating to get everything to work, but after many long days and lots of patience, we managed!'

The experiment marks the first time that polarisation entanglement was distributed using an international submarine optical fibre cable. By showing that communication secured by the laws of quantum mechanics, known as quantum key distribution (QKD), is possible in this real-world scenario, it is now feasible to implement it worldwide.

Indeed, the possible implementation of this new

technology is now the team's focus. Their eyes are set upon a different kind of entanglement – one which furthers academic knowledge while also exploring the commercial potential of QKD. 'Working with such a valuable and knowledgeable partner from the private industry as Melita Ltd taught us a lot about practical work outside of the lab,' highlights Xuereb. 'Following the publication of the findings in the prestigious journal 'Proceedings of the National Academy of Sciences of the USA', the next steps will include the further development of this groundbreaking technology, before exploring implementation in the market, first in Europe, then beyond.' **T**

This project was made possible through funding and in-kind support from Melita Ltd, the University of Malta Research, Innovation and Development Trust (RIDT), the European Research Council, the Swedish Research Council, the Linnaeus Center in Advanced Optics and Photonics, the European Space Agency, the Austrian Science Fund, the Austrian Research Promotion Agency, and the Austrian Academy of Sciences.

The background is a light purple color with a pattern of darker purple geometric shapes: squares, triangles, diamonds, and circles. A hand in a yellow sleeve is shown from the bottom left, holding a brown wooden signpost. The signpost is a vertical line that supports a large, white rectangular sign with rounded corners. The sign has a purple border and contains three lines of text in a bold, sans-serif font. The first line is in white text on a purple background, the second is in purple text on a white background, and the third is in white text on a purple background.

REJECTING

APATHY

AT ALL COSTS

Now an unwavering campaigner for women's rights, lawyer **Dr Lara Dimitrijevic** tells **Teodor Reljić** about how the academic community's action, inaction, and reaction to injustice shaped her life and activism.

From hurdles in reporting domestic violence to Malta's budding pro-choice movement, hardly any discussion on women's freedoms goes by without a word from family lawyer Dr Lara Dimitrijevic. Recently nominated for the US Secretary of State's International Women of Courage Award, Dimitrijevic represents mistreated women in court. She has also founded vocal NGO Women's Rights Foundation, which trains police enforcement, the judiciary, social workers, lawyers, and activist organisations to treat victims of gender-based violence fairly.

When we caught up with Dimitrijevic to speak about the intellectual and academic origins of her life's trajectory, the idiosyncrasy and emotional wallop of her story did not disappoint. As she pointed out in her TEDx talk at the University of Malta, she found her life suddenly revolving around the question of choice. Like most of her peers, Dimitrijevic enrolled at university after she turned 18. 'I was very undecided as to what to pursue back then, and ended up picking philosophy and classical studies. It was also during this time that I met my husband-to-be,' she tells THINK.

Dimitrijevic ended up cutting her studies short after falling pregnant with her first child, while her husband continued to work on his degree. 'Fast forward four years later and two kids in tow, and I was back, pursuing a degree in law,' she speaks as we discuss her return to campus.

'Opting to go back to university was certainly not a straightforward decision. At first I wasn't even sure it was the right choice to make at the given time, but I did know that deep down, it was something I very much wanted to list among my accomplishments in life.' Growing up 'in a family of lawyers', with both her siblings practising the same profession, Dimitrijevic may have had ambiguous feelings about the course she was about to undertake.

But what if we didn't fast-forward at all? The 'slower' story of Lara's return to university was not just academic and professional angst.

'The three years leading up to that second enrolment were very tough on my family. My son was diagnosed with a rare form of cancer when he was just two years old. We were told that there is no cure for it, and that there were only two options facing us at this



Dr Lara Dimitrijevic
Photo by Isabelle Cassar Fiott

point: remission, or death. My husband and I had no idea what had hit us. We had just had our second child...'

Dimitrijevic recounts the harrowing daily ordeal that her family had to confront in the years following the earth-shattering diagnosis. 'I spent weeks in hospital with my son, having to watch his little body grow thinner and thinner and feeling utterly helpless.'

Thankfully, the only possible physical outcome of this ordeal did indeed come to pass. 'Three years later, we were told that he was in remission. It was at this point that we felt like we needed to make some changes in our lives. For me, this meant returning to university.'

Family responsibilities did not disappear. 'The kids were still very young, just over two and four years old. Nights became my best friend. I loved the moment that kids were put to bed – around eight o'clock – and I would spend the night researching and reading.'

According to Dimitrijevic, the course assignments weren't all that bad. 'It was having to memorise the never-ending list of case law – dates and all – which took me a while to get used to!'

'The institutionalised indifference she saw at the University of Malta, coupled with the tangible academic and professional benefits of the law course, strengthened Dimitrijevic's resolve to fight for justice.'

For Dimitrijevic, learning all about the justice system was not merely an intellectual adventure. 'I was a young teen mum, but I was privileged – unlike the women I met in my life. So what about them?' she said of the origins of her activism during her TEDx talk.

For these reasons, the lack of critical insight – both from lecturers and fellow students – was what rankled hardest. 'One thing that I can say frustrated me was complacency, the lack of critical thinking and activism among students, and, to a certain extent, lecturers, within the Faculty of Law at least. Most lecturers would spoon feed us. We were expected to write what was being dictated to us. There was very little room for discussion,' Dimitrijevic recalls.

'Comparing this to my younger years, as students, we were by far more active and vibrant. We organised protests and marches and spoke out loudly, albeit at times in an illegal manner. I was arrested during one of the protests we had organised and was later released. That not being enough, the following day we chained ourselves and went on a hunger strike.'

The apathy took on a more raw and personal edge when



a mentor of Dimitrijevic's and director at Jesuit Refugee Services, Dr Katrine Camilleri, was attacked in what appeared to be a hate crime. 'She is one of the most emphatic and caring people I know. She lectured refugee law, a credit that I had selected in my fourth year. The credit and her passion very much shaped who I am today.'

In fact, Dimitrijevic volunteered with the organisation then, and continues to foster that relationship to this day.

That attack on Camilleri and the burning of three vehicles owned by the Jesuits in 2005 and seven in 2006 was met with understandable bitterness on Dimitrijevic's part. 'I was fuming. This was an outright attack fuelled by racism, and yet I was stunned to see how there was no reaction from the students. No

one was interested in marching in solidarity, nor issuing a comment.' The perpetrators are still at large.

The institutionalised indifference she saw at the University of Malta, coupled with the tangible academic and professional benefits of the law course, strengthened Dimitrijevic's resolve to fight for justice.

With that in mind, how does she see campus politics today? 'I think that today, young people seem to have more thirst to discuss,' she says, also attributing the rise of a more outspoken student body to the awareness-raising capabilities of social media. 'Now, students are more engaged with social issues and keener to voice their opinion.'

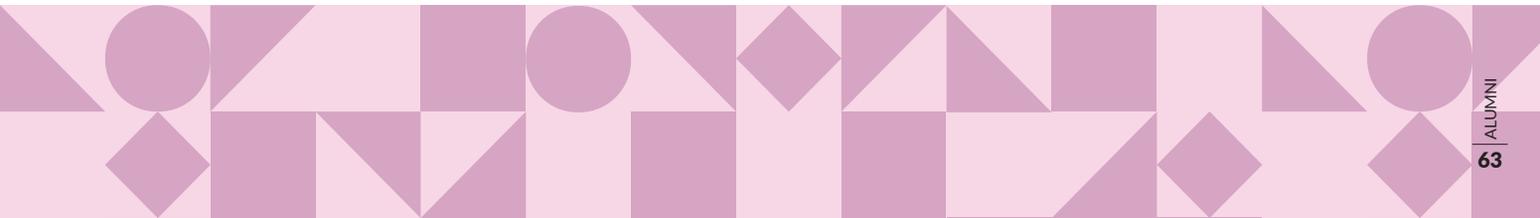
'I could not bear to be silent nor silenced. I had spent six years

studying law, and the word "justice" was drummed into me over and over again. As a result of that, I could not just sit idly by and observe injustice being done.'

Being no stranger to the campus ever since graduation, she calls for young people to shed their fears and reservations. 'Wake up, shake up. Engage, plug in, and speak up. Don't let anyone scaremonger you or belittle you. You are the future and you are the change. Get yourselves involved in organisations and the causes that are close to your heart.'

Sound, time-tested advice from someone who clearly walks the walk. 

Resources: Dr Lara Dimitrijevic's TEDx talk: youtu.be/SxjrXLH3Fc8



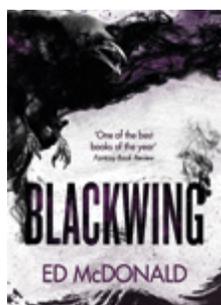
TO-DO LIST

MUSIC



When we are stressed at the office, we turn to movie soundtracks. **Hans Zimmer's *Time*** from *Inception* is an oldie but a goodie. Epic and emotional in one fell swoop.

BOOK



The first of the **Raven's Mark** series by **Ed McDonald**, *Blackwing* follows Ryhalt Galharrow's fight for survival in a war-torn world as he strives to uncover the truth behind a conspiracy thought to be a madman's ravings.

MOVIE



Beautifully coordinated action to music meets intelligent storytelling in Edgar Wright's *Baby Driver*, turning what could have been just another crime thriller into something truly special.

YOUTUBE CHANNEL



One of the best ways to understand what makes good storytelling is to pick works apart, analyse their guts, and see what worked and what didn't. *Just Write* does just this.



TV



You know that feeling when you've been working super hard and just need some familiar faces to make you laugh at the end of the day? Yeah. *Brooklyn Nine-Nine* is the ticket.

PODCAST



Wanna get a peek inside the office of one of the world leaders in geography, cartography and exploration? *Overheard at National Geographic* is the podcast we've been using for inspo these last few months.



INSTAGRAM



Maltese illustrator **Steve Bonello** (@steve_bonello) has been drawing a lot of trees lately because, let's face it, life's better with trees.

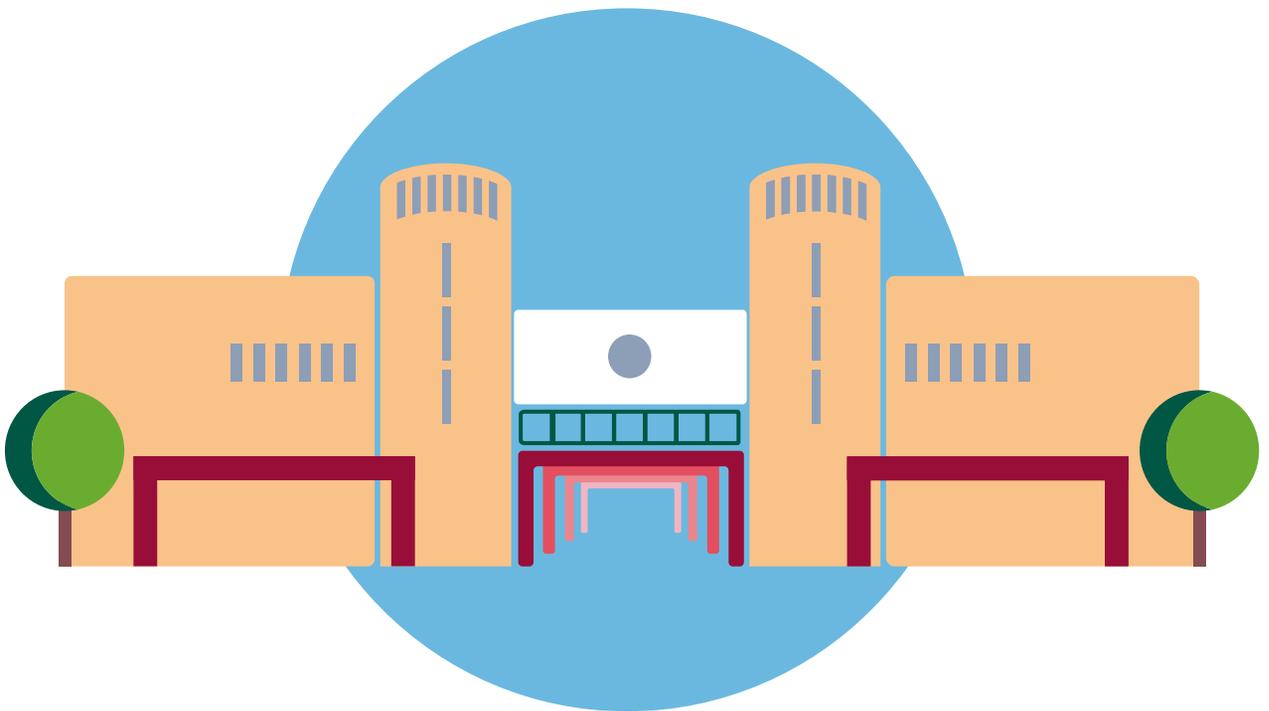


L-Università
ta' Malta



250th Anniversary

1769–2019



*Serving students, scholarship
and society, sustainably.*

#UMmakesHistory

