

MARCH 2020 • ISSUE 31

# THINK

IDEAS • MALTA • RESEARCH • PEOPLE • UNIVERSITY



# RETHINK

Where are Malta's innovators years after their ideas made the news? ReThink, a weekly radio show and podcast of **THINK** magazine, meets researchers and innovators to follow up on their ideas featured in the magazine in the past.

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EDITORIAL

## BREAKING GENDER BOUNDARIES

Each time gender boundaries break down there is occasion to celebrate. Yet the struggle is never complete. You often hear a 'yes, but...' The shifts are never enough. In this issue, **THINK** spotlights some remaining challenges while celebrating past achievements.

Without coordinating among themselves, our authors created a pattern. The first focus article (p.20) introduces three trailblazers at the University of Malta (UM), but the second (p.24) shows the sacrifices women made to get to the top. The third (p.28) talks about networking and empowerment in STEM (Science, Technology, Engineering, Mathematics subjects), then in rushes the fourth article (p.30), which looks into sexual harassment in STEM careers and outlines the services UM offers to survivors.

Gender bias limits research. In medicine, it shuts some doctors' ears to patients' suffering (p.34), while in popular history it conceals how some men stood up to inequality (p.38). The opinion article (p.10) talks about how well-meaning stereotypes can turn ugly. Finally, we discuss work-related hazards: from getting too involved (p.40) to receiving threats for doing one's job (p.42). Powerfully, Prof. Clare Vassallo writes about her friend, murdered journalist Daphne Caruana Galizia (p.14).

Focusing on remaining barriers does not mean neglecting breakthroughs. Yet for our rigid world to change, we need to shift the conversation from 'yes, but...' to 'yes, this, as well as that.'

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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](mailto:think@um.edu.mt) or call +356 2340 3451





## BREAKING GENDER BOUNDARIES

Prejudice and discrimination based on gender and sexual identity or expression hampers creativity, research, and innovation. Our cover shows the shackles of prejudice and stigma being broken, as we hope this issue assists in doing.

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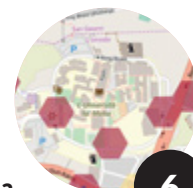
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## FEATURE

**For the love of ants**

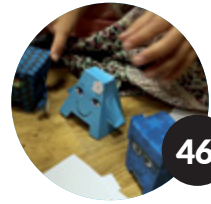
These cheeky creatures steal, extort, and allow themselves to be farmed

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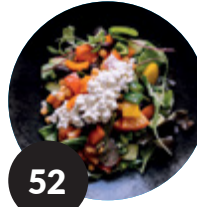
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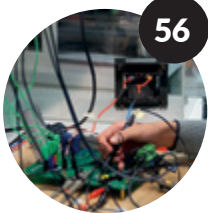


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This start-up will plan, cook, and deliver your meals so that you can focus on your work-out

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# THINK

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# TOOLKIT






# Very Intimate Imaging

Author: Dr Claude J. Bajada

**M**ater Dei Hospital is a stone's throw away from the University of Malta. In a new and exciting collaboration between the two institutions, the university invested in a Magnetic Resonance Imaging (MRI) scanner for brain research, tumour detection, and many other crucial studies.

An MRI machine is a very large, very strange digital camera. Instead of detecting light, MRI scanners use powerful electromagnetic fields (some about 45,000 times the strength of the Earth's field) to give energy to the body's water. It is that energy that is detected and converted into a digital image.

The complex process of obtaining an image is what makes MRI so useful. There are many ways to tweak the input and intermediary steps before obtaining this image, allowing scientists and doctors to obtain very detailed images of a person's insides and to visualise things that sound like science fiction. An MRI scanner can identify tumours in the liver, lungs, or breast. But it can also be used to reconstruct the connections in the brain or to visualise the fluctuations of neural activity.

UM scientists, as part of a cross-faculty and centre working group, are devising novel approaches to analysing MRI data. They are asking questions that can only be answered by looking deep inside the human body. The joint project between the hospital and the university will not only contribute to the diagnosis of diseases – it will also enable cutting-edge science and ultimately improve Malta's medical imaging abilities for all. 

**The device will be housed at the hospital's Medical Imaging Department. The scanner acquisition is funded through the Transdisciplinary Research and Knowledge Exchange (TRAKE) Complex, co-financed through the European Regional Development Fund 2014 – 2020 (ERDF.01.0124). Claude J. Bajada is a member of the University of Malta MRI Working Group.**



Researchers Dr Ingrid Vella, Dr Ing. Andrew Sammut and Dr Claude J. Bajada

The new magnetic resonance imaging scanner  
Photo by Dr Claude J. Bajada



# WITHOUT BORDERS



Interactive Walking Malta map



# Walking Malta: #unsafe or #vibrant?

Author: Carlos Cañas Sanz

**H**ave you ever found yourself on a busy road framed between cacti and fast cars, because Google Maps thought it would be a good walking path for you? To avoid such situations, we need local research and solutions on Malta's walkability issues.


In 2013 I moved to Malta from Spain. Taking in the island's small size, I wanted to try a car-free lifestyle. My experience walking in this heavily car-oriented country soon grew into a curiosity-driven research career on walkability. Nowadays, I am part of an initiative to place walking totems around the University of Malta – large poles with signs indicating how long it takes to walk to nearby localities. I hope this information will encourage others to walk.

I firmly believe that pedestrian needs, perceptions, and feelings should play a key role in studying, planning, and designing public space. This is why I developed a

participatory research project in which pedestrians can assess a place's walkability on the go. Our team encourages pedestrians to share pictures of daily walks using social media (Facebook, Twitter, Instagram, and WhatsApp) and a participatory map on our website. To tell us how they feel when walking, research participants can use hashtags like #safe, #uncomfortable or #dull. And they can also comment on what makes them feel that way.

Some pedestrians are already sharing their positive and negative experiences with us. We hear about #PedestrianCrossings, #FastTraffic, #NoStreetlights, #Trees, #BrokenPavements, #Promenades, and many more. This information helps our team to better understand the relationships between public space and pedestrian behaviour. When all individual inputs come together, we can calculate and compare perceived walkability. It means that we will identify which areas are more pedestrian-friendly, and which require attention and improvement. Apart from hashtags, we also look at pedestrians' pictures to determine the elements that influence their experience. This combination of people's perceptions and data will provide valuable insights if future city planners decide to design Maltese public space for pedestrians.

Many research challenges need to be overcome to assess the walkability of Malta's environment through the eyes of inhabitants. In traditional walkability audits and surveys, researchers' skills and measuring devices are known and tested. Meanwhile, this innovative approach relies on participants' skills, abilities, and equipment, which are often more complicated to control. We are collecting data and testing if our approach (a Citizen Science methodology) works.

From my last walk, I would praise all the new #DroppedKerbs I saw – and lament the #Noise of some busy streets. Yet for the study to be successful, we need to attract more people to participate and keep them engaged. The research relies on everyday observations by pedestrians like you. So please visit [www.walkingmalta.com](http://www.walkingmalta.com) and follow us on social media to learn how to easily share your valuable experience and local knowledge to collectively shape a more pedestrian-friendly Malta. 



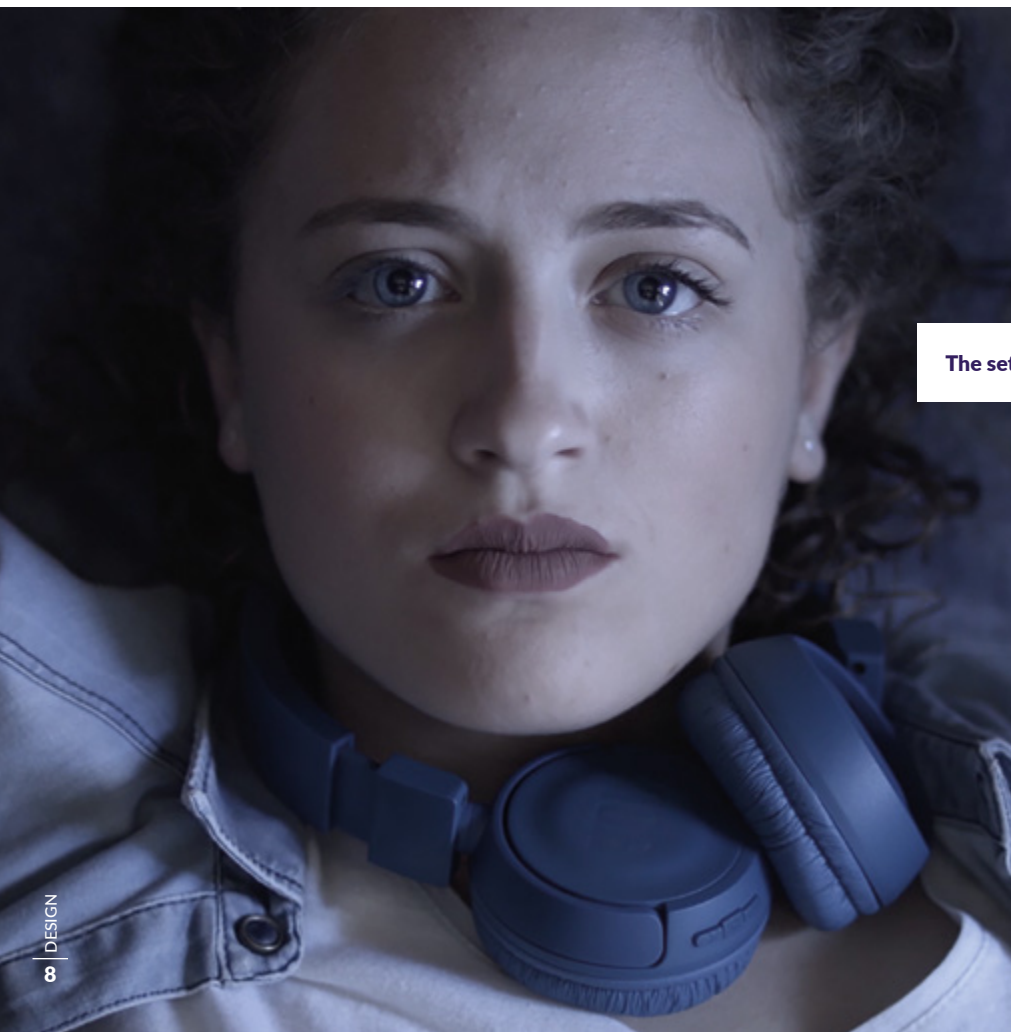
Carlos Cañas Sanz



# DESIGN



The set of *Dream Big Little Cowboy*



The set of *Delfina*







# Dark themes go places


Author: Kieran Teschner

**F**ilm is a medium that preserves life's nuances for the future. It stimulates our senses in ways no other medium can, giving a unique, multilayered experience. Even a small-scale project can speak directly to people's hearts when made with devotion to the filmmaking craft. The desire to capture a glimpse of the world through someone else's eyes drove two groups of students to international recognition.

Every year, the students in the MA in Film at the University of Malta (UM) have two weeks to shoot a short film and edit it, though it takes months of preparation to produce it. They took on all the challenges of film production: scriptwriting, sound and set design, casting, and finally the actual filming and postproduction. 'For most of us, it was the first experience [in film]. So to get things right from the first try was quite tough. Especially in the filming days, you were not sure if you were pumped up from the adrenaline, or because you were having fun,' says Edmond Camilleri, sound director in the 'Dream Big Little Cowboy' team.

This year's students tackled difficult and bleak topics – and were rewarded for this choice. In 'Dream Big Little Cowboy', we get to see the world through the eyes of the

young protagonist, James. With a combination of horror, fantastic colours, and comedic elements, the film takes us on a wild chase through the night as we explore themes of childhood, fear of the unknown, and coming of age. The darker 'Delfina' offers us an intimate look into a dysfunctional family.

The films did not stop at their premiere at the UM's Valletta Campus. They were screened in front of renowned critics and film lovers at the prestigious Rome Film Festival, within the section *Alice nella Città*. 'Delfina' scored immensely well, and at the annual *Kino Duel* International Film Festival in Minsk, it won second place in both the first-film category and student-film category, where it was praised for the acting, dramaturgy, soundtrack, and editing. Some students are already involved in new film projects, and will use their experience to support next year's film students. 

**The MA in Film Studies is offered through the Faculty of Arts and is sponsored by the Malta Film Commission. For more information, see <https://bit.ly/32a1tJM> or contact the course coordinator at [gloria.lauri-lucente@um.edu.mt](mailto:gloria.lauri-lucente@um.edu.mt).**



## Young motherhood is not all doom and gloom

**Dr Andreana Dibben**

**T**eenage mothers are all too familiar with the phrase 'children raising children'. From professionals to politicians, media, and even strangers on the bus, everybody has something to say about the perils of teenage pregnancy. Yet, when I spent two years attending a weekly mother and baby support group, hanging out with 24 young mothers (ages 13 to 21) for my doctoral research, I learnt that the reality was much more complex than a clichéd slogan.

My research looked into the lived experiences of pregnant young women and young mothers in Malta, specifically capturing detailed insights into how participants defined their sexual, reproductive, and mothering choices in the context of the policies,

services, and discourses that framed their lives. Many participants considered being a mother as a deeply positive experience. Knowing full well about the teen motherhood stigma, they reclaimed the pejorative phrase 'children raising children' and saw their young age as advantageous because 'you and your child grow together'. They felt they had more physical energy to carry out motherhood-related tasks, and expected a better mother-child bond due to a minimal generation gap.

What impressed me was that teenage mothers know how to care. The level of attentiveness and the responsibility with which young mothers cared for their children starkly contrasted with society's

stereotypes. Many participants had assumed caring roles and responsibilities from a young age, so caring for children was something they had learnt to do early on.

Pregnancy was not always accidental as is publically presumed. It was often an active choice, framed as a positive step towards family formation. Research participants saw their early romantic relationships, often with older men, as an expression of psychological maturity. Some claimed the baby was healing the sufferings of their difficult childhood.

There is no denying that some pregnancies were not planned. Often, this was due to imbalanced power in relationships and control over sexuality. 'We didn't use condoms because he



did not want to' or 'he did not want me to go on the pill as he saw it as a free pass to screw around' were common phrases in the interviews.

The feminist lens helps detect gendered and class-based attitudes and behaviours, particularly conspicuous in the young mothers' stories. Popular culture's heterosexual imagery shapes young women's reproductive choices early on. Framed by this ideology, the creation of a nuclear family is seen as the ultimate goal of a romantic relationship. Even for unplanned pregnancies, an ethic of responsibility and the stigma on abortion further pressure them towards choosing motherhood. Mothers are then expected to be completely selfless in their 'sacred' role. As Mireille, an

18-year-old mum who accidentally got pregnant at 15, put it: 'I used to feel from the start that a huge responsibility was coming upon me. Now I'm not sorry that I had her though... In the end you do everything for your children.'

Yet my research shows that young mothers are not passive in this process. Choosing motherhood in the unequal context they inhabit, young mothers take their lives in their own hands. They challenge the patriarchal ideology that values only certain kinds of motherhood as 'good' – it must be based on marriage, economic independence, and a mature biological age. Most young mothers made active decisions when faced with dominant male partners, patronising professionals, and stigmatising incidents. Motherhood

may have exacerbated disadvantage in many situations, but it also gave a sense of empowerment.

This study shed light on how young mothers valued their experience over social, economic, and cultural constraints. They consider motherhood as a positive life choice rather than a limitation. In the words of Isabel, a 19-year-old mum of a two-year-old: 'The most important thing is how you feel inside. I feel great joy and satisfaction. Even though you're 16, you can still raise your kids well. And that's what matters at the end of the day.'

Isabel's message is clear: Young mothers are making a valuable contribution to society. Instead of pity, they need respect and support. **T**



# STUDENTS



## Healthcare app to reduce harm from drug combinations

**Lizzy Farrugia**

Improvements in healthcare, including better drugs, mean that we live 25 years longer than we did sixty years ago. Ironically, incorrect drug combinations lead to more than 300,000 deaths annually in the EU and the US. Can technology mitigate this peril?

Over half of people who medicate daily take at least four different drugs. The phenomenon is called polypharmacy, and it increases adverse drug reactions exponentially. To prevent fatalities, healthcare professionals need to be aware of harmful interactions.


Portals like DrugBank and Drugs.com already provide detailed information about known drug-drug interactions, but they lack the latest knowledge. Under Dr Charlie Abela's supervision, I created a platform that uses biomedical literature to help healthcare professionals identify harmful interactions between two drugs.

Our system is called medicX and consists of two main components. The first is responsible for the automatic identification of drugs from biomedical texts. The second checks whether a sentence is explaining an interaction between the identified drugs.

Both components rely on several handcrafted features, as well as different natural language and machine learning techniques. medicX finds a mention of the targeted drugs, then leverages the sentence structure to process the mentions. I used bi-directional Long Short-Term Memory

Networks (a variant of neural networks) to process the mentions of the drugs in context. Support Vector Machine classifiers were used to automate the process of distinguishing between negative and positive drug-drug interactions.

A healthcare professional interacts with medicX by inserting two drugs into the search bar on the medicX portal. Then the system automatically identifies whether the two drugs can interact, based on a confidence score.

The application has been well-received, and publishing my research has given me the confidence to continue pursuing this study in my Masters. This time, we want to focus on predicting unknown drug interactions and showing those quickly and easily to professionals. The drugs will be shown graphically as nodes linked to other drugs. Then, based on existing knowledge, we will establish new interactions within the graph using graph learning – deep learning techniques applied on graphs. The results will support healthcare with information about incorrect drug combinations and limit the risk for patients. 

**This research project was part of a B.Sc. in Artificial Intelligence (Honours), Faculty of ICT, University of Malta. The research paper titled 'medicX: Mining drug-drug interactions for healthcare professionals' has been presented at the Applications of Intelligent Systems (APPIS) 2020 conference.**



# Cracking the Code of Hereditary Diseases

## Mark Briffa

**L**ack of clarity amplifies the challenge to come to terms with a disease or disorder. During my research into genetic diseases, I met a Maltese family seeking to understand their condition. Several family members had been diagnosed with hereditary ataxia, a disease that results in some loss of control of normal bodily movements. They had no information about the variation in their DNA that caused the disease.


Ataxia can result in loss of balance and slurring of speech, amongst many other signs and symptoms. It is most commonly inherited from one's parents. Researchers have identified many different types of ataxia, all caused by different genetic variants in the person's DNA. Identifying the exact change in DNA is crucial for mapping out a treatment plan.

The family under analysis consisted of a couple with four male sons, the elder two of whom were diagnosed

with hereditary ataxia. Two of the male members of the mother's family line had suffered or were suffering from similar symptoms, while there was no history of ataxia amongst the father's relatives. This family history suggested that the genetic change is on the X (female) chromosome, which means that men will develop the illness when they inherit a single affected chromosome, while women will suffer ataxia only if they inherit it from both parents. In this family, we found the genetic variation in both affected siblings, their mother, and two of her female relatives, but not in other family members. Family history thus helped us in identifying the genetic variant.

To help this family, we took a sample of their DNA, sequenced it, and identified the genetic differences between the healthy and affected family members. We detected a genetic variation in the PDHA1 gene (found on the X chromosome), which produces

a protein that is needed to maintain the brain's energy levels. Low energy levels lead to ataxia's symptoms.

Our research is only the first step to diagnose this family. We need further research to understand exactly how the genetic variant is generating ataxia. This will help doctors provide treatment and guide future generations of this family towards genetic counselling with regards to family planning. For me, as an aspiring geneticist, the experience of meeting the family members and understanding their story was humbling. Hearing first hand about their plight really served to hammer home their desire for clarity. Hopefully, this is the first step towards a better life for this family. 

**This research was funded by the Malta Human Genome Project (MCST R&I 2013-041) and supervised by Prof. Joseph Borg and Dr Graziella Zahra.**



# TRIBUTE

## Daphne, my friend



*She is hated by people who didn't know her. She is also hugely admired by people she didn't know. **Prof. Clare Vassallo** shares a deeply personal tribute to world-renowned murdered journalist **Daphne Caruana Galizia**.*

**D**ehumanised, stripped of love and laughter, a face, a name, a symbol held up high and made to stand for various battles — my childhood friend is being transformed into a sign, a thing that stands for something else. For me, she is someone real who I knew and who I miss. Someone whose voice still rings in my ear with the odd funny and clever comment.

Daphne Vella, as she was known when I first met her at school in Infants A at age 3, was my first school friend. We were tiny then, standing against the wall in the large, loud 'double-room' full of children taller than us, busy running around, shouting and playing, overpowering us. She was always tall and very slim, with straight dark hair tied in bunches, as was my lighter wavy hair.

In Infants A and all the way to Junior

5, we forged a tight group of school friends at St Dorothy's School in Depiro Street, Sliema. Friends who all lived within walking distance of the school and from each others' houses. Simone, Iona, Gladys, Stephanie, Doreen, Carole and Clare (always said in the same breath so people often didn't know who was who — and some still don't), and Daphne. We started a book club. By the age of seven we were all avid readers of Enid Blyton's *Secret Seven* and *The Famous Five* adventures, as well as many other authors such as L. M. Alcott. We pooled our books so we could all share them. Sometimes we kept them in Daphne's bedroom, probably because she was President of our club (and I was Vice President).

We liked our comics too. And the special Annuals that came out at Christmas — there was so much to

read in them. Stories, travel, puzzles, quizzes — there were Ballet Annuals too, and all other sorts. Eventually we moved on to *Jackie and Pink*. When we were about nine years old, we were allowed to walk down to the Ferries together on Saturday mornings to buy them from Morris or Manche's stationaries on Tower Road. We'd meet at the top of Cathedral Street near Stella Maris Church and walk down together. Sometimes we'd go on to Allies Bar for a Coke and a cheesecake. Francis Ebejer was often there, sitting on those dark curved wooden chairs outside in the sun.

This is Daphne as I remember her. The girl who was funny, clever, witty, and perhaps not so wise — since she seemed to have a knack, as she grew older, of upsetting most of her teachers and anyone in authority. But ▶



Pauline Magro's 8th birthday party



St Dorothy's Junior School, Sliema





**Carole, Daphne, Clare and Iona  
1990 St Dorothy's Convent reunion - Class of 1980**

the teachers had to admit that she could write, and very well. I vividly remember a little incident when we were nine or ten years old and shared a double-bench for the year when, just a few moments before we sat for a test, she passed a tightly folded piece of paper to me. I opened it and found she'd drawn, in bright beautiful colours, a pair of wings in flight with the words 'Hope you pass with flying colours!' Literalising the metaphor. Working with language. So clever. So Daphne.

After we moved to secondary school in Mdina, we were rarely in the same class, and slowly we started spending more time with other school friends. We'd meet in summer at Ferro Bay or Fond Ghadir for a swim, but slowly other things took over. Eventually, and quite soon, Daphne was married to Peter and became a mother to her three lovely boys, Matthew, Andrew, and Paul, before I'd even got married myself. Our lives increasingly took different paths as I spent more time away on my studies and various other adventures.

So, the years passed. Growing up together had created a connection and a deep friendship, an affection which remained. We connected again years later and we spent time on the phone talking through things. Then we started seeing each other again, meeting up

for lunches with a different group of women — Pippa, Gloria, Petra — at regular intervals a few months apart.

Daphne was always working hard on her beautiful magazines on home, food, and travel — always in full glorious colour on high quality paper. Often she joined us a little late as she'd be busy putting an issue to bed. Our conversations were varied — so many interests we had between us, so many loved ones, children and families and friends and travels. We spoke politics too. Of course we did. We didn't agree on everything; we all had different angles on issues and that made the discussion all the more engaging and kept us going well into the afternoons fuelled by some large G&Ts, and great food washed down by good wine.

The adult Daphne was a private person, a woman often stared at and made to feel ill at ease and a little awkward at large public gatherings. A woman full of a passion for beauty, for friendship and love. Also for truth and justice, and for this country to become the best version of itself.

But people didn't understand that what she wanted was for Malta to be a better place. They attacked her in many different ways. Then she started talking about

spending time away from Malta – her three boys lived abroad and she visited them frequently. I wish she'd left when she said she would.

One of the last times I was with her was one of her happiest. Her second son, Andrew, was getting married. She was dressed in brilliant pink and gold – fabric she'd brought with her from India, where Andrew was posted as a diplomat in the Maltese Foreign Service. A number of Junior School friends from the Book Club days were there, and we have a photo of us – all smiles, all getting older, most of us no longer very slim – but happy, looking to the future, seeing our children grow up and take their places in the world, places they'd worked hard to achieve on their own merits.


Then came that call from my son Max, who was living in the US. He'd heard before I did and phoned immediately with shock and panic ringing in his voice. 'Daphne, ma, Daphne, they did it...!'

They killed my friend.  
They tore her apart.

This is the Daphne I knew: a warm, kind, funny, and ferociously clever woman in a country that doesn't like its women that way.

That stubborn, hard-headed, not-so-wise trait in her character would not let up. There was too much to say – and no one was saying it. Sources would pass on information while keeping themselves safe and anonymous. They went to her instead of the newspapers, because newspapers did not follow up on hints of stories as they should have. As she did. She took it on. All of it. Too much.

*Goodbye my friend.*

*Two years, and counting.* 



Jackie, Veronica, Iona, Clare, Daphne, Joanna, Vicky, Roberta, Graziella, Mariella, Simone and Carole on the last day of school at St Dorothy's Convent, Mdina



Mariella, Gladys, Simone, Daphne, Angele, Nicole, Carole and Bridgette at the School Leaving Social



Gloria, Pippa, Clare and Daphne: my birthday







## BREAKING GENDER BOUNDARIES

Our breaking boundaries issue is about leaving a lasting legacy of openness. This requires creating more favourable entryways for others in the future. From high-achievers who mentored

others to brave individuals working for the quality of our democracy and society despite threats and discrimination, this issue discusses several ongoing struggles in gender equality in Malta and worldwide.



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# Making it in a male-dominated world



Seeking a job and growing in it may seem like a commonplace thing nowadays. Yet for women at the top of their game today, the path was fraught with hurdles and required the utmost determination. THINK takes a moment out of the incredibly busy lives of three central women at the University of Malta (UM) to discuss their life stories and challenges quashed. Words by **Martina Borg**.





Photo by James Moffett

**'Do not try to be Superwoman, and expect to be perfect at everything.'**

## Prof. Marie Therese Camilleri Podesta

Her titles are too many to list in a single breath: doctor, anatomy professor, pathologist, the first woman to achieve a full professorship at the University of Malta (UM) in 1981, and the first woman to be appointed Assistant Dean. Taking me into her humble office, Camilleri Podesta visibly shrugs off any suggestion that her achievements have been particularly noteworthy, but her face lights up as she talks me through her family history and career.

As an only child, raised by a doctor father and a teacher mother, Camilleri Podesta was no stranger to breaking new ground. 'Both my parents inspired me in their own ways. My father with his dedication to medicine, and my mother with her love of teaching and her unwillingness to let society dictate what she should do with her life.'

Her mother, she explains, was shunned by her peers following her decision to keep working despite her family's social standing. Camilleri Podesta's father meanwhile taught her science subjects, given that they weren't offered at girls' secondary schools at the time. She caught up with her male peers, and chose to study medicine rather than pharmacy, which was considered more 'feminine'. Studying with only two other female students, Camilleri Podesta went on to qualify as a medical doctor in 1969, despite resistance from patients, who assumed she was less qualified than her male counterparts.

After three years practising medicine, she obtained a research post at UM, where she flourished despite the trials. After six intensive years, Camilleri Podesta got her PhD in 1979, and posts as a lecturer and professor followed soon after. During this time, she also began carrying out forensic work. She is now Malta's leading forensic specialist.

It took around eight years before any women began to obtain top positions like hers. The reasons, she suggests, are both cultural and rooted in the promotion systems at academic institutions. 'Obtaining promotions in the sector is particularly difficult for anyone with children, as it is linked to the number of papers you get published rather than the hours you spend teaching or on committees,' she says.

Given the expectation of women to be primary caregivers, women often had to bow out of the race if they decided to have a family. Camilleri Podesta herself owed a lot of her success to the support she received from her parents and husband. Besides her staggering portfolio, the professor has also raised three children, all born in close proximity to each other – an impressive feat even without such a busy career. Looking back at her youth, she admits having spread herself too thin at times. **T**



Photo by James Moffett

**'Fear can be one of the most limiting factors in one's achievements, but opening up about our challenges can lead to incredible waves of support.'**

## Prof. Carmen Sammut

Pro-Rector and Professor Carmen Sammut, too, starts her story with her childhood as we speak in her home one sunny morning. Her childhood takes us to an idyllic family farmhouse, with a young Carmen catching frogs in the then-rural streets of St. Paul's Bay.

As an only child to working class parents, Sammut was the first in her family to study beyond primary school. 'My mum taught me to read even before I started formal education,' she says over cups of coffee.

Academic development was not an obvious goal for Sammut but teachers at secondary school inspired her to persevere and breach the boy's club that journalism was in the 70s and 80s. 'My first job in the media was a part-time position in the cash office at the Union Press, while I was still at Junior College,' she remembers. 'Although I was heartbroken to discover that women weren't allowed anywhere near the newsroom at the time, my time there opened my eyes to the barriers women faced in the media, and it was a life-altering realisation.'

The disappointment she faced set the tone for much of her work challenging gender inequality and discrimination. Driven by the lack of opportunities to study journalism locally at the time, Sammut took a position in broadcasting, working on the foreign desk. Meanwhile, UM was just starting its diplomas and courses in journalism, so she read for several part-time programmes to work her way up to a Master's qualification, all while holding down a full-time job. Her achievements didn't stop there. In 2001, her desire to specialise in political economy and communications led her to apply for a scholarship to study overseas. She obtained her PhD in Media and Communications at the University of London's Goldsmiths College, and her experience inspired the UM to start building a new department.

'Around the time, there were very few universities focusing on International Relations. But by the turn of the millennium, the focus began to shift, and the UM was an early adopter,' she says, describing her department's beginnings.

A lifetime of achievement culminated in her appointment to Pro-Rector for student and staff affairs in 2017. Her focus, unsurprisingly, is improving inclusion across the board. 'As of the 90s, the percentage of female to male graduates was not just balanced, but I would say it had reached around 60% female to 40% male. But there are severe discrepancies and gender imbalances in particular subjects,' she notes. 'Our next challenge will be to identify and overcome the hurdles preventing women from studying subjects like engineering, as well as those keeping men away from careers like teaching.'

'The history of women at the top of the game at UM is relatively short, with many of the pioneers in the institution still active today. As a result, there is a very small pool of female mentors,' Sammut says. She also points out that the promotion system is prohibitive since it emphasises academic publications above public engagement. 'Giving more currency to community involvement and to those so-called "softer skills" would have an impact on the number of women being promoted,' she adds. [T](#)

# Veronica Grech

Veronica Grech is the UM's first female Registrar. Ambitious and hard-working from the start, Grech laughs that she would never have imagined reaching such heights when she applied for her first job in 1972 as a shorthand typist at the UM's Registrar's office.

'My father worked in the public service and my mother was a shorthand typist before getting married, a fact that was in itself quite rare at the time,' she said smiling at the perhaps inadvertent similarity. Her parents' support allowed Grech to sit for her 'O' Levels and 'A' Levels, which earned her the job at UM. Opportunities, Grech explains, were few and far between, but after about ten months she progressed to a position at the Rector's office.

'I moved to replace a female colleague who was getting married,' she says, explaining that a marriage ban was still in operation at the time. Under this ban, which lasted until 1978, women who were employed in the public sector had to resign their posts if they married. Although such a prohibitive law would cause many to pause in their tracks, Grech explained that the lack of opportunities for women at the time meant that she took the chance anyway.

Working in this office inspired Grech to continue learning, and she embarked on a gruelling five-year BA evening course at UM, followed by an MSc in Management in Higher Education at the University of Surrey. Upon returning to Malta, Grech continued her meteoric rise. Following some resignations, Grech took on the formidable task of running the matriculation office. Grech rose to the occasion and oversaw the establishment of what is now known as the MATSEC Support Unit.

'At the time, the number of students and subjects studied was rising rapidly,' she says, describing her fifteen-year stay in the office. Grech is particularly proud of being one of the leading figures behind the creation of a university-wide student database and credit system, known as SIMS, launched in 2002. The latter then allowed the UM to adapt to the internationally recognised credits system still in use today, known as ECTS credits. 'Implementing the software was complex and time-consuming. It demanded a lot of training that is still ongoing today, but it has now become indispensable,' she said, adding that transcripts and exam results used to be hand-typed back in the day.

After such a remarkable list of achievements, Grech became Registrar in 2009. Throughout her time at UM, she has seen the institution change, grow, and make room for more women like herself.

'There is so much more support for women and so many initiatives we hadn't even dreamt of when I first started,' she says, referring to flexible hours and working from home. She is hopeful and confident that the number of women reaching the top will increase in due course as long as women are allowed to gain the experience and opportunities they need. Preparing to retire from her post, Grech adds that she hopes that her legacy will be one of training and supporting her co-workers. [T](#)

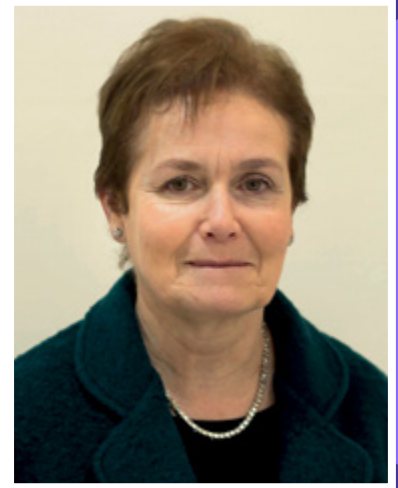
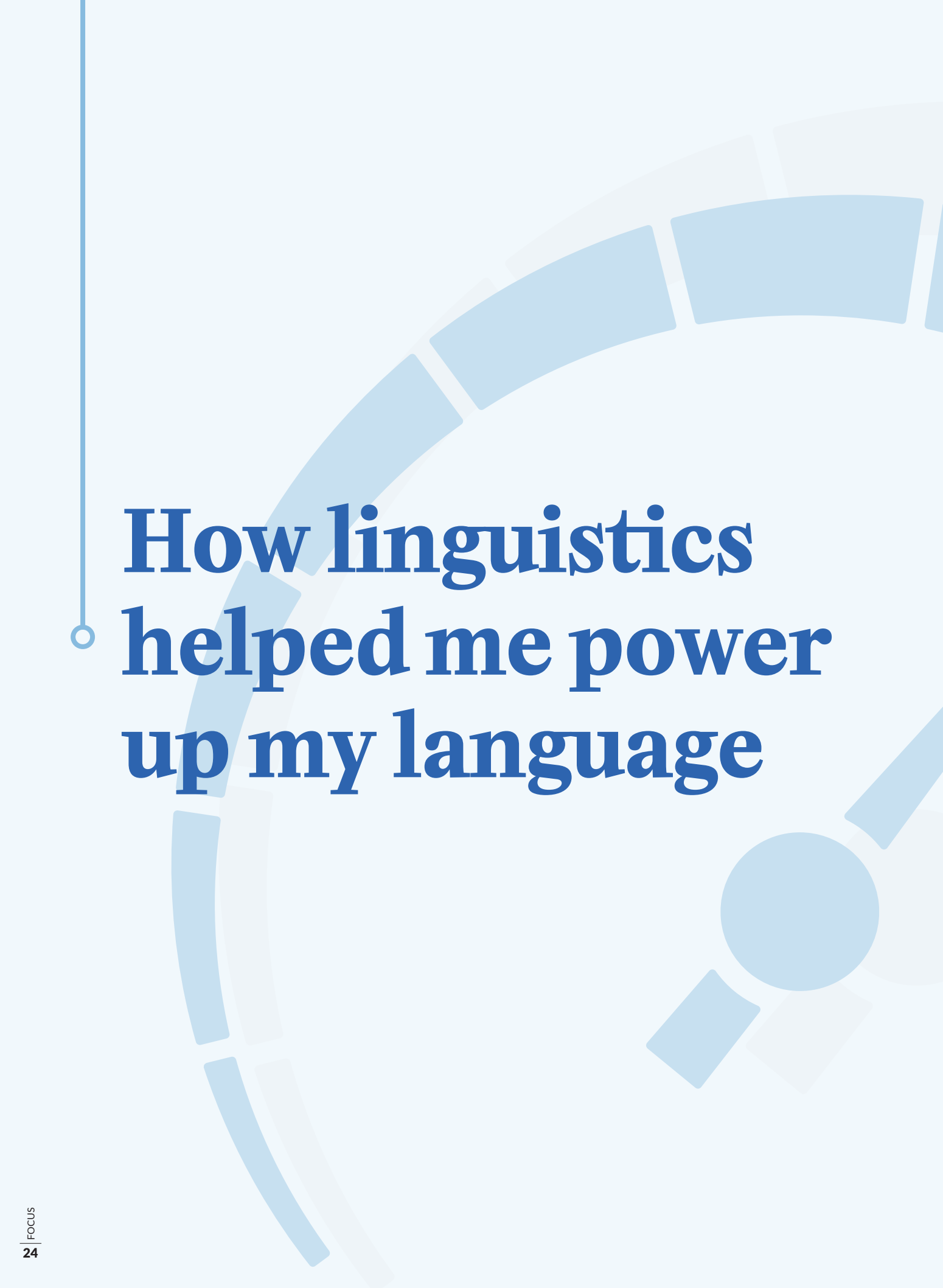



Photo by James Moffett

**'Surround yourself with people you trust, to make sure that things you've implemented with your team can proceed.'**





**How linguistics  
helped me power  
up my language**




*'If you are a woman working in a traditionally male hierarchy, you have one of two choices: Quit or Masculinize'. Linguist **Prof. Lydia Sciriha** chose to end her keynote speech at the HUMS symposium with this quote from Pease and Pease (1999). As a curious scientist and keen observer of society, she has accumulated a plethora of personal stories to show how communication gaps solidify gender inequality. She shares them here with **Daiva Repeckaite**.*

In 2019, female graduates by far outnumbered males. This was not the case when Prof. Lydia Sciriha (Department of English, University of Malta) started her own academic journey. Then, women made up under a third of undergraduates, and graduating female PhDs were counted in single digits. Four decades later, over half of new PhDs and lecturers are women, but their share shrinks as they move up the academic ladder.

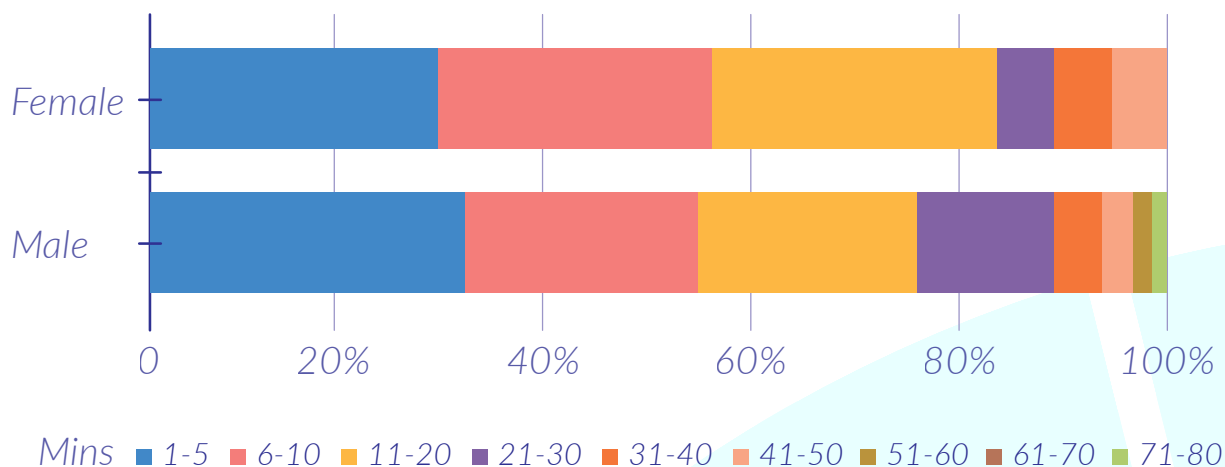
Even though female graduates outnumber males, men still dominate in decision-making roles. In her talk, Sciriha presented data over a span of forty years to show that Maltese women have now cracked the glass ceiling. Yet her sociolinguistic research shows that for women to succeed they must change their communicative styles. 'We are not competitive and we are not hierarchical, because we are socialised differently,' Sciriha adds, noting that women prefer to use the first person plural instead of the first person singular as a way to include others. She admits that she herself has

a tendency to say, for example, 'We convened a conference,' which gives the impression that she had a huge team of people to help her out, which was not the case. 'I now say - "last year, I convened a conference", but it is still very difficult to learn to adjust such habits. When women speak, they try to downplay their achievements,' the linguist says.

'But when you want to be heard, at times you just cannot wait for your turn to speak. You have to learn to interrupt like men do. The power dynamic is a key factor. As a woman, I've learnt that if men interrupt, so should I!' she explains, and brings in data to prove this point. In a study published in 2009, Sciriha and her team recorded 108 minimally-guided interviews with married couples and later transcribed them to study men's and women's speech patterns. These interviews lasted half an hour on average (some were longer), but nearly a quarter of the men interviewed managed to interrupt their wives more than 20 times.

For Sciriha, communication around her is a 

## Who interrupted more? (number of times)



Source: Sciriha, L. 2009.

never-ending source of inspiration. Her current research revolves around linguistic landscapes, taking note of the diverse languages used in street signs, plaques, warnings and instructions, and house names. Communication at conference talks and lectures, as well as meetings with the students she supervises give her ideas for research pointers in gender and language. 'There have been times when I have had around 100 students attending my study-unit on English in Society. One of the topics I lecture on focuses on language and gender, and I introduce this topic by asking my students, "Are there differences in the speech of men and women?" And invariably the first difference students cite is, "Women are always talking". Do they? Employing her students to collect data, Sciriha mapped how talk time is shared in married couples (see in graph above).

The academic environment gave her many more examples of how gender structures the way individuals interact. After finishing her PhD in linguistics in Canada, Sciriha joined the university in 1987, and female academics in the Faculty of Arts were conspicuous by their absence. 'I had another disadvantage - I was still very young. I was a greenhorn. I did not have experience,' she remembers, and it did not help when she faced a barrage of microaggressions. Despite her quick rise to the post of Director of the University's Language Laboratory Complex (a language laboratory with a



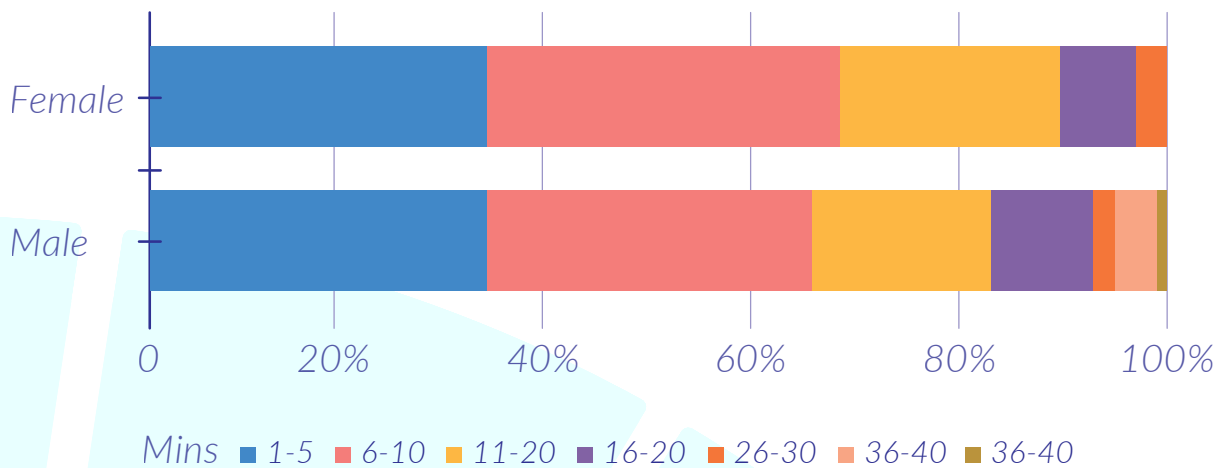
Prof. Lydia Sciriha  
Photo by James Moffett

sound library), strangers still took her for a secretary.

Science ended up shaping her way of communicating. 'Sociolinguistics has taught me so much and has opened up my horizons!' says Sciriha, who learnt the hard way how to be direct and assertive. 'I've been teaching language and gender for the past 32 years. One of the most eye-opening books has been 'Women don't ask' by



## Distribution of talk time



Source: Sciriha, L. 2009.

*You have to learn to interrupt like men do. The power dynamic is a key factor. As a woman, I've learnt that if men interrupt, so should I*

Linda Babcock and Sara Laschever who cite several studies to show that women are afraid of asking, for example, for a raise in salary, unlike men. What they're afraid of is a no. Prefacing my requests with a polite "Would you mind?" does not get me anywhere with some people. So I have learnt to be direct and assertive and say, "I need it, please endorse my request!" It is certainly

not easy to undergo such a change in communication style, but there's a limit to how much I can put up with,' she says, before adding one more example to show how being adamant is key to achieving desired results.

'Some years ago I needed a new computer as my old desktop had broken down. One of the IT specialists, who knew how important it was for me to have a new computer specifically tailored to my needs, guided me as regards the specifications of the computer I required. When I went with my request to the person who would procure my computer, his initial reaction was that the computer I had asked for was expensive. I justified my request by emphasising that I use different software applications and that I don't just use my computer as a word processor. Moreover, I also named the IT services specialist who had instructed me to ask for that particular computer. Of course, I got the computer I had asked for. My

request was clear, direct, and I had also backed it up by citing the IT specialist as the authority on the subject.'

Even today, some colleagues feel they can boss her around. 'I've got many stories like this - I wish I could write a book about it,' the linguistics professor smiles, looking at a shelf full of books with her life-inspired chapters. Over the decades, she has perfected her strategies for standing her ground. 'But is it fair that I have had to change my way of communicating? It seems I had no choice.' [T](#)

### Further reading:

**Sciriha, L. (2009). Different Genders, Different Communication Styles? Patterns of Interaction Between Maltese Couples in Malta. In S. Borg Barthet (Ed.). A Sea for Encounters: Essays Towards a Postcolonial Commonwealth (pp. 365-378). Amsterdam: Rodopi.**

# STEMming gender gaps

*In an equal society, men and women would be drawn to various careers in roughly similar numbers. The fact that there are still so few women in the Science, Technology, Engineering, and Mathematics (STEM) fields shows that something is crooked in the recruitment and retention of students and staff. **Danielle Martine Farrugia** writes.*

As a young girl, I was always curious to understand the world around me, constantly asking questions and conducting mini-experiments. The world was my oyster – nothing was off limits. A pivotal moment was when the 12-year-old me chose to profile the accomplished scientist Marie Skłodowska Curie for a school project. A physicist, chemist, wife, mother, and the only person to receive two Nobel prizes – in Physics and in Chemistry – she is the best-known female researcher who jumped through hoops to be given the same opportunities as male colleagues.

I began to understand the trepidation she overcame to further her education. I saw how she surpassed obstacles in a male-dominated environment. At this point in my life I was not aware of what women had to endure to move forward and conduct scientific research. However, by reading up on and speaking to female researchers and scientists, I realised that reality was far from balanced. Running Malta Café Scientifique, our team committed to finding at least one female speaker each year, but even

that was difficult, as women are not that visible in research. The experience motivated me to have a panel discussion on the gender gap in STEM at a Malta Café Scientifique event.

The European Commission defines the gender gap as a disparity between men and women in any social, political, or cultural area, which results from different participation levels, access, rights, and remuneration. Studies cited by The Conversation revealed that journal editors are less likely to commission work from female scientists. When applying for postdoctoral fellowships, women received 'lower competence ratings than men who had less than half their publication impact'. In the words of Malala Yousafzai, the Pakistani activist for female education and the youngest Nobel Prize laureate, 'We cannot all succeed when half of us are held back.'

There are no grounds for different participation levels in STEM. In Malta, girls score significantly higher than boys in science, according to the international PISA (Programme for International Student Assessment) survey of 15-year-olds, measuring their skills in reading, science, and mathematics. Despite women's good

exam results, four out of five graduates in computing and engineering are male across the EU (as of 2012). This trend is consistent worldwide, especially at the University of Malta (UM), where student undergrad statistics from 2018/2019 show that STEM graduates are overwhelmingly male-dominated (engineering – 85% and ICT – 86%), except for health sciences (76% female), dental surgery (64% female), and medicine and surgery (60% female).

'Research shows this has a lot to do with social belonging and the belief in one's [chances to] succeed. This means that in order to attract more girls to study STEM subjects and enter STEM careers, we need to address the stereotypes they are exposed to, and we need to do this as early as possible,' says Irene Mangion, Programme Developer at Explora Interactive Science Centre. UM psychology graduate Gillianne Saliba explored this gap in Malta in her undergraduate study, 'Women in STEM: A qualitative study on women's experiences'. She found that female undergraduates pursued STEM courses when they were exposed to STEM subjects early



Danielle Martine Farrugia  
Photo by Abigail Galea

on and when they found a structure to support them.

Building on these principles, the Ministry of Education initiated Teeny Tiny Science Café and the National Science STEM expo at Esplora, engaging Malta's main higher education institutions. 'Engaging women in STEM outside of the formal academic structure is essentially democratising women's voices within the community,' believes Simone Cutajar, chairperson of GreenHouse, a local citizen science NGO. Through such experiences, citizens are given the opportunity to see whether they would like to pursue science as a career.

Supportive mentors and role models, male or female, are crucial. Dr Claudia Borg (read interview on p. 48) from the Faculty of ICT (UM) considers herself lucky to have found men who believed in her capabilities and supported her in the advancement of her studies and career. But defining career moments should not depend on individual luck. To structure the access to mentors, the 'Women in Science – Bridging the Gap' project is building a mentorship structure to offer female role models to students.

'From an early age, our education system informs our upcoming generations about male scientists,' the project's manager Karen Fiorini believes. 'Their achievements are hailed as admirable, life changing events, which is great. Unfortunately, however, the failure to mention female scientists' accomplishments is stripping children of female role models.' Run by the Malta Chamber of Scientists and funded by the Voluntary Organisations Project Scheme of the MaltaCVS, a national council of nonprofits, this scheme will reach out to children aged 6–11, sixth formers, and adults. Using interactive performances and interesting activities, the project's team will bring

Maltese female researchers and their work to the fore.

So far we have covered recruitment and mentoring. But why do established, competent women leave STEM careers in droves? We need more Malta-focused research to understand this complex issue. By awarding the Equality Mark to organisations that prioritise gender equality, the National Commission for the Promotion of Equality is encouraging tech companies to create a safe space for both genders to work harmoniously side by side. Tech professionals are rising to the challenge. Vanessa Vella, a Senior Software Engineer working as a full-stack web developer at CS Technologies, co-founded and co-chaired an NGO called MissInTech to introduce more women to technology.

All these local changemakers are working hard to reform recruitment, career development, and staff retention. Is that enough? We invited some of them to discuss this at the Malta Café Scientifique event 'Women in STEM,' supported by Pro-Rector for Student & Staff Affairs and Outreach Prof. Carmen Sammut (see interview on p. 20). Inspired by my younger self and that simple school project, the Malta Café Scientifique team is drafting a set of recommendations for institutions following the panel discussion. STEM fields cannot afford to continue bleeding talented women. **T**

#### Further reading:

**Fine, I. and Shen, A. 'Perish not publish? New study quantifies the lack of female authors in scientific journals.' *The Conversation*, 8 March 2018: <https://bit.ly/2V8MMp5>**



# #MeTooSTEM: We must do more to protect women

*You can have all the role models in the world. You can enjoy grants and empowerment seminars. Yet when a senior colleague you've always looked up to corners you, all you want is to run away, fast.* **Cassi Camilleri** writes.

The heightened awareness around equality and representation has reached Science, Technology, Engineering, and Mathematics (STEM) fields. The global effort to recruit more women and girls into industries traditionally described as male-dominated is yielding results. In 2017, women outnumbered men in the Psychology, Pharmaceutical Science, and Biology undergraduate programmes at the University of Malta (UM). However, increasing the numbers of women is paving the way to a whole new, and yet despairingly old, battle. Many who brave becoming a minority in their profession report having to face numerous barriers. Sexual harassment is one of them.

Jennifer (not her real name) had big dreams when she first entered the field, and continues to uphold them, but it has not been easy. She didn't see red flags in the 'friendliness' of a new project colleague, until he crossed boundaries. 'I had a colleague who was much more established than I am, and every now and then he would make throwaway sexual comments.

This was all supposedly in the spirit of "joking around". But I think when you have a position of authority, you have to be even more careful about the comments you make. Your subordinates are not really in a position to make their discomfort known,' she says. Reporting this behaviour is difficult in closely knit teams, like innovative startups, laboratories, or teams sharing grant funding.

## SEXUAL HARASSMENT ISOLATES

Jennifer felt all alone in this, but sexual harassment in the workplace is a known issue in Malta. According to research conducted by the NGOs Men Against Violence and the Women's Rights Foundation, three out of every four female respondents reported experiences of sexual harassment in the workplace.

'Many of respondents to our survey who had reported instances of sexual harassment said that they were silenced in some way, usually by being ignored, not taken seriously, but sometimes they were even demoted or threatened with dismissal,' says Aleksander Dimitrijevic, founder and





president of Men Against Violence. Internationally, the movement to expose STEM-specific patterns of sexual harassment became known as #MeTooSTEM. In 2018, the US's National Academies of Sciences, Engineering, and Medicine (NASEM) published a damning report titled *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. The research showed that '[w]omen in STEM endure the highest rate of sexual harassment of any profession outside of the military.' It also stated that '[n]early 50% of women in science, and 58% of women in academia, report experiencing sexual harassment, including 43% of female STEM graduate students.'

'When my colleague found out that I was in a relationship with another woman, he started making comments about how attractive my partner was and how she couldn't possibly be gay. As a member of the LGBTQ+ community, I found this very jarring,' Jennifer tells. Just how many young women share her experience is not known, as local research is sparse, and looking for stories on social media was challenging because each unique testimony risks exposing the survivor.

The fight against sexual harassment needs institutional structures in place to handle such cases. The UM has been at the forefront of this since the early 1990s, according to Dr Maureen Cole (Faculty for Social Wellbeing), an advisor appointed to support

the UM's efforts to quash sexual harassment and help victims achieve resolution. 'Thanks to the efforts of the Gender Issues Committee, the University of Malta has had a sexual harassment policy in place since 1994,' she explains, noting that this preceded national legislation. 'There were times when one of the [[local]] banks looked to us for guidance and advice in the late 90s. It was, and is, a clear commitment from the Rectorate to make sure people are protected. The University should be given some recognition for this. I feel that it is important to recognise good practice,' Cole asserts. This openness is notable, as messages to human resources staff at other relevant institutions were left unanswered. ➔





Are people like Jennifer using these services? Cole reports that the number of sexual harassment reports made at the UM per year average between one and two in an institution with 11,500 students and nearly 1,600 members of staff (latest published data). Cole admits, 'It is a low number.'

## COMMUNITIES OF SILENCE

The fearful climate poisons the work environment. 'It made me feel like it was no longer a professional environment, and it was isolating. I had to politely laugh off the comments because I didn't want to damage a professional relationship I knew was important to my career. The sad thing is I know I'm not the only one, and it makes me feel guilty not speaking up when I hear there are others,' says Jennifer.

Academia's hierarchical structures lend themselves easily to abuse of power. The NASEM report revealed that '90% of women who report sexual misconduct experience retaliation.' Malta's small size and hugely connected networks makes this even more of a threat to those considering speaking up. Cole highlights this point in her

lectures. 'I say to my students, imagine if I were the harasser. I'm teaching you here at University. There were times when I was on the social work profession board. So you're coming to apply for a warrant, and I'm sitting on the same board. I'm an advisor to this person and that person. You can't get rid of me. Because Malta is what it is. [...] If you're a lawyer, you're going to be encountering these people. [...] If you're a medic, you're going to be in the same hospital. I'm not saying people shouldn't report, but I understand why they don't.'

'On this occasion, the reports and comments made against my colleague were acknowledged by my team when I brought them forward, but it was difficult. I knew that I would still have to work closely with this person,' says Jennifer. 'Communities at this level are tiny and people bump into each other all the time. My network and my prospects could have suffered significantly if my other colleagues did not receive the complaints as well as they did. And I'm grateful for that.' Finding a safe space feels more urgent than seeking justice. Sending an anonymous message to the popular Women for Women group feels more urgent than describing very personal encounters in a formal report.

The current reality is that when a report comes to the Sexual Harassment Advisors, anonymity cannot be afforded for very long. 'We cannot investigate [a complaint] without seeing the other person's side of the story according to the regulations,' says Dr Gottfried Catania, also a sexual harassment advisor at the UM. 'The other side has to be made aware of the accusation, Cole continues. 'There will be a point where the accused will receive a report saying this person is making this report about your behaviour. And many times, even people who come very determined to take action do not go forward once they realise that.'

## SPEAK UP MALTA

Dr Lara Dimitrijevic (Department of Gender Studies) has a lot to say about the shame surrounding sexual harassment, not only in STEM but in Malta as a whole. 'We have a culture of dissuading people, silencing people. Malta has a very high percentage of the population that believe that women make up stories. I find this very shocking.' According to data from the research quoted earlier, a third of all respondents believed that victims of sexual harassment were



*This was all supposedly in the spirit of “joking around”. But I think when you have a position of authority, you have to be even more careful about the comments you make. Your subordinates are not really in a position to make their discomfort known,*

partly to blame due to the way they dressed or behaved. Victim-blaming is clearly still pervasive. ‘The reporting for sexual harassment to the National Commission for the Promotion of Equality has decreased from three cases in 2015, to zero in 2016, to zero in 2017, to just one in 2018. Does this mean sexual harassment isn’t happening in Malta? No. Of course not. It’s that people are not speaking out. While awareness is increasing, we feed into the victim blaming and we’re not addressing that at all.’

‘The only way to deal with sexual harassment at [the] workplace is for [a] company to take [a] pro-active approach: create policies and [a] clear reporting system, inform every new employee on their first day about it, have [the] policy printed and hanged on the walls of the offices, have HR department organise training, Aleksander Dimitrijevic suggests.

Innovation binds all STEM disciplines. Without fresh minds, innovation stops. We stop creating new solutions for the problems our societies continue to face. We owe it ourselves, to our communities, and to those taking the helm, to provide safe spaces and break the silence. **T**

### WHAT DOES SEXUAL HARASSMENT LOOK LIKE?

According to the Code of Practice compiled by the Maltese National Commission for the Promotion of Equality for Men and Women (NCPE), sexual harassment at the workplace is defined as ‘unwelcome sexual conduct’ and is unlawful under the Equality for Men and Women Act, 2003 (Cap 456) and under The Employment and Industrial Relations Act, 2002 (Cap 452).

Sexual harassment may take many different forms and can involve:

- unwelcome physical contact such as touching, hugging, or kissing;
- staring or leering; suggestive comments or jokes;
- unwanted invitations to go out on dates or requests for sexual interaction;
- intrusive questions about an employee’s private life or body; unnecessary familiarity;
- insults or taunts based on your sex;
- sexually explicit emails or messages;
- sexually explicit pictures, screen savers or posters;
- behaviour which would also be an offence under the criminal law, such as physical sexual assault, indecent exposure, and obscene or pornographic communications.

### SEXUAL HARASSMENT PROCEDURES AT UM

The procedures to deal with sexual harassment at UM start when the sexual harassment advisors meet the person reporting sexual harassment to listen to their account of the incident/s. From here, the advisors provide information on other support services available at the university and nationally, and offer referrals as needed.

The next stage is making a decision about the action to take. The informal route involves a written agreement signed by the complainant and the alleged harasser as a form of assurance that the behaviour is not repeated. The formal route involves a report being made to the police and potential disciplinary action being taken.





# One size fits... male?

*'Man-flu' memes and the celebration of women's endurance hide the reality that the medical world routinely downplays women's pain and disease. **Miriam Calleja** takes a closer look.*

**W**e often hear that women are more tolerant to pain than men. Many are also proud of it. However, in the famous game-changing paper titled 'The Girl Who Cried Pain: A Bias Against Women In The Treatment Of Pain' the authors Diane E. Hoffman and Anita J. Tarzian found that contrary to popular belief, women report more severe levels of pain, more frequent pain, and pain that lasts longer than men's. Three Maltese women found out the hard way that confiding in medical practitioners does not always lead to help.

Culture and gender frame our behaviour around pain perception. Boys were, and some still are, told not to express pain by crying or showing emotion. Girls were told to calm down and not make a fuss. Pain meant weakness. Our language lacks the vocabulary to adequately

describe pain. In 'On Being Ill', Virginia Woolf writes: 'English which can express the thoughts of Hamlet and the tragedy of Lear, has no words for the shiver and the headache... The merest schoolgirl, when she falls in love, has Shakespeare and Keats to speak for her; but let the sufferer try to describe a pain in his head to a doctor and language at once runs dry.'

## **GENDERING PAIN**

By analysing a number of studies, Hoffman and Tarzian found that women are 'more likely to be treated less aggressively in their initial encounters with the healthcare system until they prove that they are as sick as male patients.' This is a phenomenon known as the Yentl Syndrome. In other words, doctors may brush female pain off as fabricated or exaggerated. This can impact diagnosis, disease progression, and treatment plans – delaying care and fueling mistrust.

Prescribing uterus removal when a woman was 'rebellious' may seem like ancient history, but that bias has not fully retreated. Until the early 1990s, women were mostly excluded from clinical research studies and trials in medicine. What we knew about the body, about disease, and about medicine was based on men. Drugs that didn't work on men, but might have worked on women, were discarded. With incomplete data, the medical world may have lost opportunities to improve women's health. Have today's healthcare professionals been trained to counter this gender bias?

Antonia\* doubts that. As a teenager she developed digestion problems and nausea every time she ate. When she complained, her family doctor downplayed the problem and suggested that she should just stop eating for a couple weeks. After this shocking response she ignored the issue for a long time, suffering ↻





in silence. Another doctor chalked it down to 'growing pains' and did not recommend a colonoscopy, even though Antonia asked for it.

Having received no satisfying response from her visits to medical professions, Antonia decided to do her own research, discovering that her symptoms matched the description of a condition called Crohn's. Because of her constant discomfort and pain Antonia had no choice but to persist until she was granted testing and the correct treatment after years of suffering. This means that two doctors would have left her inflamed digestive system untreated, risking further damage.

### **'IT IS JUST A PHASE'**

Women are often told that their ailments are due to stress or other emotional factors. A little rest would solve the problem; it is just a 'phase'. Some doctors would call a woman insisting on referral for further testing a hypochondriac,

even in the presence of positive clinical tests (see e.g. Samulowitz et al. 2018 study and numerous articles in the *New York Times*, *The Atlantic* and elsewhere). Thankfully, there are enough doctors who look beyond textbook-like symptoms. They make it a point to listen and investigate as much as necessary. Yet the burden of finding a practitioner ready to listen lies with the patient.

Karen visited her gynaecologist complaining of headaches and substantial weight gain. Test results revealed a high prolactin level, which is normally produced during pregnancy or right after giving birth. Yet when Karen asked to be referred for an MRI to investigate for tumours in the pituitary gland, the doctor refused, telling her that she was 'making a fuss'. Another doctor later referred Karen for an MRI, and the tumour was detected – a life or death analysis.

Gynaecologists feature often when discussing gender bias. Without

systematic training to counter biases, women are left to 'shop around' for a gynae that doesn't shame them or belittle their wishes. This is surprising for a profession specialising in women's health.

Reproductive issues open another can of worms. Some women who decide not to have children are treated as though they don't know what they're doing. Their doctors imply that the patient will inevitably change their mind, or try to guilt the patient into considering the feelings of a hypothetical man they might meet.

You would think that commitment to bear biological children would be respected, but women who undergo IVF are often treated with insensitivity too. Sandra\* and her husband had a harrowing story to tell me. Sandra's gynaecologist decided to immediately hurry her to IVF after the first visit about their concerns at not being able to conceive. The gynaecologist was rarely present for her many



appointments at hospital, leaving Sandra to be passed from one doctor to another, internally examined by various doctors without explanation or prior request for consent. With the exception of one doctor, none of them introduced themselves. All along she tried to ask questions, but was kept in the dark about the situation, going along with the doctors' instructions but losing trust. The outcome of the first procedure was unsuccessful, and because of how traumatising all this felt, the couple decided not to try again.

## UNLEARNING THE BIAS

Pain is subjective and difficult to measure. An individual's tolerance to pain is affected by various factors, and pain perception may change with time and experience. Pain causes distress, which makes it difficult to measure objectively. So how can overworked doctors make the best possible assessment?

In her thesis titled 'The Chronic Pain Management Service: Awareness and Perceptions Among Healthcare Professionals' (University of Malta, 2008), Maria Campbell studied pain perception in other healthcare professions in Malta back in 2008, finding out that outdated attitudes have not been challenged. She writes, 'Incomplete knowledge, outdated attitudes, myths, and misconceptions about pain and its management contribute to unsafe, inadequate, and inappropriate pain management.' Medical practitioners

wanted to be more up-to-date: 'The need for information in the form of leaflets, seminars, and continuing education was echoed in the overall answers (90%) of the close-ended question and in the statements declared by participants.' But before this training becomes systemic, the radical act of listening to women is a good place to start. **T**

*\* Name has been changed*

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# Women's baroque male allies

In early modern Malta, some men resisted patriarchal attitudes which oppressed women. Drawing upon two cases lifted from primary sources, **Dr Christine Muscat** argues that written history has largely neglected the voices of men who manoeuvred patriarchal structures to empower women.

Eighteenth-century Malta was a dynamic, adaptive place. In the hinterland farmers struggled to transform barren areas into productive land. In the harbour district, on the Eastern side of the island, people from all walks of life wove their way into a multi-coloured, multi-faceted cultural tapestry. The establishment of the Hospitaller convent in 1530 transformed the once desolate Marsa into a landscape of opportunities.

Still, hierarchical class relations based on economic differentiation and social stratification continued to define the social reality of the island's denizens. An overarching patriarchal Catholic morality maintained a tight grip on society – most oppressively on women, who were economically disadvantaged, excluded from public life, and subordinate to family interests. Women were not necessarily passive to the strictures and structures that controlled them. Trials lifted from the Bishop's court and the secular court show that some women resisted or negotiated oppressive configurations, and some men appear to have helped women to act independently.

## FEMALE PROSTITUTE ENTREPRENEURS

Monographs on women's histories in Malta started late in the early 21<sup>st</sup> century. Women are mentioned in Attilio Critien's 1949 study on foundlings under the Hospitallers and in Paul Cassar's 1964 book, *Medical History of Malta*. Cultural perspectives on women in Hospitaller Malta emerge in Frans Ciappara's 1988 monograph on marriage in late eighteenth-century Malta and his subsequent *Society and the Inquisition in Early Modern Malta*, published in 2000. Sporadic essays were also published on the deeds and misdeeds of early modern women in Malta. Carmel Cassar's *Daughters of Eve* (2002) is the first published socio-cultural study on early modern women in Malta. Carmel Cassar showed how women in the 16<sup>th</sup> and 17<sup>th</sup> centuries overcame or ignored confining norms imposed on them.

My monograph, *Public Women: Prostitute Entrepreneurs in Valletta 1630-1798*, published in 2018, is a study that looks into the entrepreneurial pursuits of some early modern prostitutes in Valletta. It provides evidence of women carving out individual spheres of autonomous action by making choices, employing wealth, and influencing men as well as other women. At first glance this may not seem phenomenal, but the fact that these women operated in a city of chaste men made their achievements conspicuous.

The question of whether men aided women in their lives was peripherally approached in Emanuel Buttigieg's pioneering book *Nobility, Faith and Masculinity: The Hospitaller Knights of Malta, c.1580-c.1700* (2011). The Knights' vocational mission included charity. Charitable deeds bestowed on women did not always sit comfortably with religious austerity and patriarchy.

Feminist historians like Margaret F. Rosenthal and Liz Spierling associate male motivations to help women navigate patriarchal authority to political or sexual intentions, or



Dr Christine Muscat





Sketch of a Prostitute in outdoor attire by Opitio Guidotti (a knight) c.1600  
Image provided by Oliver Gatt

chivalry. In his study on patrician society in Renaissance Venice, Stanley Chojnacki gives alternative motivations: respect, solicitude, and affection. Functioning on an unconscious level, a number of Maltese Baroque novels, like *Giammaria Ovvero L'ultimo dei Baroni Cassia* and Frà Fabrizio Cagliola's *Disavventure Marinaresche*, offer rich evidence of these ideologies. A sense of righteousness may have been an ulterior motivation that drove some men to support women.

## FROM JESUITS TO SEAMEN

In May 1703, Father Emanuel Sanz, a Jesuit residing in the Collegium Melitense in Valletta, was called to testify in the Bishop's Court. He was questioned on the mannerisms of Ursula Gatt, an alleged prostitute, who passed away on 26 February 1702. His deposition formed part of a long-drawn out litigation between the Magdalene Nuns and Gatt's relatives over death dues. Following the good counsel of the erudite Don Girolamo Bisano, Sanz recounted having informed Ursula that she could, in all good conscience, abstain from cohabitating with her abusive husband Marcello Gatt. Sanz made it a point to emphasise that Bisano was the moral theologian and casuist of the Collegium, a reader of the sacred canons and qualifier of the Holy Office in Palermo (National Library Manuscript 1067, f.85v). In Catholic doctrine wives were duty bound to submit to their husbands. Sanz and Bisano were religious men who sanctioned a married woman's abandonment of her husband. They supported Ursula Gatt's interests without 'religious' or 'patriarchal'

qualms. In another case dating to 30 January 1740, frustrated by judicial inefficiency and procrastination, Onorato Zolan filed an urgent appeal in the Magna Curia Castellania, the secular tribunal of the Order of St John (1530-1798). Zolan was a seaman who was about to embark on a journey. The job was important; he urgently needed money to support his family. He informed the Court that a warrant of impediment of departure had been issued against him by Captain Claudio Castagnè in security of an ongoing Court dispute. Clearance was subject to the defendant's constitution of a *procurator litis* – a person legally appointed to represent someone else in court litigation. Castagnè's demand was illegitimate. On 27 January 1740, Zolan had given his wife Margarita power to act in his name. The deed was drawn by Notary Gio Andrea Abela. Zolan attributed the judiciary's delay to the fact that his procurator was female. The plaintiff was cited as a possible conspirator. Zolan insisted that women had every right to act as procurators (*come se fosse proibito dalle Leggi, che le Donne potessero essere costituiti Procuratrici*). Denying such rights was utterly absurd and 'an open calumny' (*essendo ciò un assurdo, et una aperta calunnia*) (National Archives of Malta, Court Proceedings Box 406: Supplica Onorato Zolan). A 'calumny' is a false and malicious statement designed to harm someone. The word 'open' makes the injury infinite. Powerful words.

Sanz, Bisano, and Zolan's voices surfaced during my research on public women. There are many other male voices waiting to be heard. These are voices that show that there were righteous men who were not impassive to the patriarchal conventions and institutions which unjustly penalised women. In January 1740, patriarchal ideals, lack of preparation, late preparation or incompetency may have inhibited Judge Pietro de Franchis from responding positively to Zolan's appeal. My experience in studying women's history in Malta and Western Europe shows that the same shortcomings, this time under the umbrella of a feminist critical edge, may be obstructing modern historians from engaging with the past with an open mind. **T**

*'As he that binds a stone in a sling,  
So is he that gives honour to a fool'* (Proverbs of Solomon 26:8)

### Further reading:

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**Muscat, Christine, 'Regulating Prostitution in Hospitaller Malta the Bonus Paterfamilias Way' in Storja (2019).**

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# When your job captures ‘every breath you take’

Are you a doctor? A friend? A mother? An athlete? All of the above? **Kieran Teschner** talked to **Dr Patricia Bonello** from the Department of Social Policy and Social Work (University of Malta) about the relationship between people and their profession, and how music can capture this relationship.

Who does your favourite love song remind you of? Your current partner, first teenage love, or maybe a long lost crush? When Dr Patricia Bonello was working on her research, listening to love songs instead made her think about her profession.

In her seminar ‘For Better or for Worse’ last December, she invited the audience to explore the concepts of professional and personal identity through song lyrics. She played snippets of new and old pop music, while asking us to reflect on our feelings towards our jobs, which gave insight on professional identity.

The concepts of ‘professional’ and ‘personal’ identity are not as clear-cut as it may first seem. But finding the boundary between our professional selves, our identity in personal lives, and where these two can be integrated is beneficial, claims Bonello. She says that in humans

there is no singular, unitary sense of self. Instead, we must contextualise ever-changing circumstances, responsibilities, and relationships into an idea of who we are as a person.

Because of this multitude, we may struggle to figure out our identity. No matter how structured and straightforward we think we are, our lives can be unpredictable and chaotic. It might be difficult to find a sense of self in the vast number of experiences we have over a lifetime. To make things easier, we tend to organise our lives into different episodes, arranging these episodes into larger stories. Changing schools, graduating, beginning and ending jobs and relationships, can all mark the episodes that make up the story of our life.

Stories have main actors. Roles help us identify our function in society to ourselves and others. When we assign an existing label to our identities, we derive a code of conduct for our behaviour. This simplifies the ordeal

of making sense of ourselves and our role in society. Taking on a different role helps us adapt to the situation at hand – we often leave our personal feelings and prejudices behind when going to work, and focus on our job.

Bonello says that when we reflect on and define our personal and professional identities, we can improve our psychosocial wellbeing, increase awareness of our strengths and weaknesses, and ultimately become better at our jobs. ‘In the helping profession, I don’t think it’s possible to separate completely, because I have to use myself in doing the work I do. This is me. So what I am, I bring to my work,’ Bonello adds.

In her research, Bonello explored how social workers identify with their profession. She found that people bring a lot of themselves into their work. It is especially difficult to divide the self from the practice. This integration of the personal and professional selves has a lot to do with the type of person that chooses



**Dr Patricia Bonello**  
Photo by James Moffett

social work as their career path. Social work does not rely on clear diagnostic tests and requirements – rather, a social worker must appreciate everyone’s different character. Therefore, this profession requires a great deal of empathy and professional judgement.

On the flip side, helping professions have a tendency to bleed into one’s personal life. Especially in a small community like Malta, keeping up an acceptable public image even after hours is quite important. ‘Otherwise one risks appearing hypocritical at work,’ Bonello says. ‘Do as I say, not as I do’ does not work.

The high amount of personal engagement and emotional strain with limited financial gain and social prestige makes a career in social work less acceptable for men. One of the reasons for this could be that the society still expects men to be breadwinners for the family. Another is that employers expect that care is something ‘natural’ for

women, rather than a skill to master. In Bonello’s seminar, the majority of the audience were women. This is not surprising, as social work is a largely female-dominated profession. In 2013, around 81% of social workers world-wide were female. Bonello speculates that a combination of factors has led to this gender disparity. Even though social workers are important to the community, the work is often undervalued. Female-dominated jobs tend to be regarded as lesser than male-dominated fields, which in turn reinforces the existing bias, the researcher says.

Research shows that social workers expressed an exceptional amount of pride in their work, even when aware of the drawbacks. Bonello says that at first, the deep-rooted love and devotion coupled with lingering resentment made her think of a rocky marriage. But by listening to pop music, she found a much more fitting way to verbalise these feelings: love songs. ‘Can’t help falling in love with

you’ and ‘Change the World’ describe the ‘call’ that many feel, as they see their profession as a true vocation, driven by a wish to help people and make a difference. ‘Every Breath You Take’ by The Police reminds Bonello of the way that social work takes over one’s entire life, figuratively ‘watching’ over every step and every move, while Nazareth’s ‘Love Hurts’ speaks of the sacrifices and pain that come with fully committing to the profession.

But Bonello challenges the view that social work is a second-class profession. Instead, she focused on individual choices, and chose to end the seminar with Leona Lewis’s song ‘Happy’. She explained that social workers make their choice of profession and take on its challenges with pride. Their heads are held high as they accompany people in their struggles. These dedicated workers know it is not an easy task, but they want society to acknowledge that they are happy to do it. Their voice needs to be heard. **T**



# Journalism's gendered risks



Journalists find themselves increasingly interfered with or intimidated, facing violence and threats, surveillance, and prosecution. **Prof. Marilyn Clark** shows how these dangers are different for men and women.

Without the right to freedom of expression there can be no true democracy. Journalists enable public debate and inform on matters of public interest. Unfortunately, freedom of expression is under threat all around the world – even in Europe. For democracy to function, journalists must be free to examine the power structures of society without fear. While imprisonment of journalists in some countries shocks the world, governments are not the only actors trying to silence critical voices.

In 2017, I (Prof. Marilyn Clark, University of Malta) led a research project commissioned by the Information Society Department within the Council of Europe. The research identified the extent of interference with journalists in the 47 Council of Europe member states, and the associated fear and self-censorship. Over 900 journalists (mainly members of major journalists' and freedom of expression organisations) participated in the study: 54% male and 46% female. They reported very high levels of interference. This affected journalists' personal and professional lives. Some statistically significant differences emerged between male and female survey participants. Men were more likely than women to be threatened with force, intimidated

by the police, and to experience physical assault. On the other hand, women were more likely to experience sexual harassment and/or violence. Female journalists reported online threats of sexual violence such as rape.

Gender is one of the most important categorising principles in the social world. In Europe and in Malta, women continue to act out their social life in a patriarchal context with unbalanced power relations. Journalism is no exception and is still a male dominated field. Despite more women studying journalism, female journalists continue to be underrepresented in positions of power, such as editors-in-chief. They are rare in management positions, and their careers tend to be shorter than those of male journalists (see Women's Media Center's 2019 study). Violence against journalists reflects the forms of violence women experience in society. Violence against women and gender-based violence are rife in the European Union, with a survey by the Fundamental Rights Agency in 2014 showing that 33% of women have experienced physical and/or sexual violence since the age of 15.

The International News Safety Institute ran a global survey on the intimidation of female journalists with 1,000 individuals. Nearly two-thirds of them reported experiencing some form of intimidation. Most interference took place



at the workplace, by male employers and coworkers. Despite negative psychological effects, many women did not report this intimidation. The numbers reflect the low rates of reporting of violence against women.

Women are silenced more often than men. According to Newcastle University professor Karen Ross, who recently gave a talk in Malta, online abuse against men tends to sound like 'You are a stupid idiot', while women are often confronted with messages like 'This is a photo of you leaving your house at 9 am. I will come to this house at 11 pm and rape you.' Audience focus on and engage with male journalists' opinions and ideas, but when it comes to discussing women's work, endless online discussions can rage about authors' physical attributes rather than what they write. Threats against female journalists may lead to self-censorship out of fear for retaliation (see Clark & Grech, 2017). Female voices risk remaining unheard. In 2016, the Council of Europe created recommendations to protect female journalists, highlighting gender differences in job-related risks.

I am currently leading a qualitative follow-up project to the 2017 Council of Europe study, aiming to better understand journalists' personal experiences of interference. The study explores the gender dimension. In examining

how journalists, both male and female, create meaning out of their experiences of intimidation, we hope to understand how they negotiate their professional risks. Journalists have a right to be safe, whichever gender they are, when they hold power to account. We hope to identify a number of remedies for countries to adopt for this to become a reality — Europe's democracy is at stake. **T**

#### Further reading:

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**Women's Media Center (2019) <https://womensmediacenter.com/reports/status-of-women-in-us-media> Retrieved 6<sup>th</sup> February 2020**

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# For the love of ants



The relationships between ants and other organisms can be just as complex as the subterranean networks they tunnel. **Thomas Cassar** takes a closer look at how these insects farm, steal, and co-habit.

Some ants' tendency to 'farm' aphids (plant sap-sucking insects) for their sweet honeydew is decades-old knowledge. Cynics use this phenomenon to downplay the achievements of humans: look, an animal the size of a sesame seed had mastered agriculture long before human beings.

But aphids aren't alone in this world of ant-coexistence. There's a specialised group of animals which ignore the opinion of disgruntled roommates worldwide, seeking out the company of others. These are the myrmecophiles, literally 'ant-lovers'. Such a phrase may conjure up an image of a great expert, maybe someone like the American biologist E. O. Wilson, pouring over an anthill (that would be a myrmecologist). Myrmecophile is an organism that just can't live without ants.

## THE ANT NEST ECOSYSTEM

Ants' nests are prime real estate for the enterprising and the brave. If you can somehow get on good terms with your ant hostesses, you're guaranteed a temperature-regulated shelter free of predators. And if there's one thing all living things agree upon, it's that you don't say 'no' to a free bed and meal. But there's always an adaptive fee to pay.

There are chambers for the brood, guards, the queen, and for food storage. The nest's surroundings can yield rich pickings, too – the foraging routes, for instance. But if you're tiny, good at holding on for dear life, or look like a nightmare straight out of Ridley Scott's *Alien*, then the bodies of ants can be your home.

Many mites – tiny arachnids – feed on ants as parasites. The highly specialised mite *Macrocheles rettenmeyer* just can't resist a sip of army ant blood, and to get its meal it latches onto the ant's last foot segment. But army ants can't do their job with a bad foot; they form protective

clusters by hooking each other's claws together. So the mite earns its keep by converting its whole body into an extra ant's foot. When the ant needs to use its claws as gripping hooks, the mite's legs bend to serve the same purpose.

*Antennophorus* mites are another kind of 'considerate' parasite. Taking up positions on either side of the ant's head or abdomen, they create a balanced load. Although it would be better for the ant if these thieves of regurgitated food weren't there at all, this balancing act somewhat reduces the problem.

Patting someone's head for a snack might not be recommended in human society, but for ants, sharing regurgitated food after a few antennae-taps is a way to communicate and strengthen social bonds among nest-mates. It's also nutrition on tap for intruders who know how to say the magic word. So apart from lapping up food as it is passed from one ant to another, *Antennophorus* stroke the ant's antennae with their legs in a way which mimics the touch signals from other ants requesting food – and hey presto, the host presents a globule of food, glorious food.

The trails of foraging ants can also offer an easy meal. One species which takes advantage is the *Amphotis* beetle. It waits for ants heavily laden with food, and like a highwayman of the undergrowth, gets the ant to regurgitate food by drumming on its head with its antennae.

The myrmecophile VIPs have adapted to gain exclusive access to the most precious confines of any nest: the brood chamber. Here, ants tend to their larvae day and night, guarding them fiercely, and feeding them generously. To live a luxurious life here, you need to get under the radar. The ingenious larvae of beetles have learnt to not only mimic the food-begging behavior of the ants' own larvae, but they mask their intrusive presence



by releasing a pheromone which triggers brood-tending behaviour. The beetle has mastered these mechanisms so well that its larvae end up getting a bigger helping of food than the young ants themselves.

### **YOU SCRATCH MY THORAX, AND I'LL SCRATCH YOURS**

Many myrmecophilous relationships are truly reciprocal. Some caterpillars of blue butterflies (*Lycaenidae*) seek out ants' care and protection in exchange for a concentrated sugar solution secreted by a gland on their back. In some treehopper species, which exchange honeydew for protection, females abandon their young early on to the care of their farmers, being able to produce more clutches of eggs in the meantime.

The benefits of reciprocity can be so great that they may change the way ants live their lives and build their nests. Malaysian herdsman ants (*Dolichoderus cuspidatus*) have no permanent nests, instead constructing shelters out of their own living bodies to protect their livestock – honeydew-producing mealybugs. When the mealybugs' plants run dry and all seems lost, the ants pull up their socks and efficiently transport the mealybugs to fresher pastures.

The discovery of this behaviour in 1985 was the first known case of non-human nomadic herding.

One need not travel to far-flung forests to appreciate the world of ants. Prof. David Mifsud (Institute of Earth Systems, University of Malta) recently worked on a study which brought the total known ant species in the Maltese Islands up to 70, a world with its own cast of characters. There are clean-up crews of blind, white woodlice scavenging the nests of harvester ants. Golden nicoletiidae silverfish zoom around, feeding on debris and stealing the odd morsel of regurgitated food and getting away with it, because the silverfish have learned to copy their hosts' nest's unique identifying odour. A sub-endemic, 4mm-long cricket (*Myrmecophilus baronii*) lives with carpenter ants, its wings lost in the course of evolution, along with much of its eyesight. A ground beetle (*Siagona europaea*) uses the secretions of its ant prey to make itself less detectable as it hunts.

From an ant's perspective, living with other insects rather than eating them may ensure that precious resources are always in stock – much the same reason why humans went from hunter-gatherers

to farmers. For the myrmecophile, there is one good reason amongst many for moving in with ants. By providing the ants with a useful resource, you avoid becoming their breakfast, lunch, or dinner. If you can't beat them, join them. **T**

#### **Further reading:**

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**Talarico, F., Bonacci, T., Brandmayr, P., Dalpozzo, R., De Nino, A., Giglio, A., Tagarelli, A. & Zetto Brandmayr, T. (2009).** 'Avoiding ant detection in *Siagona europaea* Dejean 1826 (Coleoptera Carabidae): an evolutionary step towards true myrmecophily.' *Ethology Ecology & Evolution*, 21(1), 45–61. doi: 10.1080/08927014.2009.9522510.

**Von Beeren, C., Schulz, S., Hashim, R., & Witte, V. (2011).** 'Acquisition of chemical recognition cues facilitates integration into ant societies.' *BMC Ecology*, 11(1), 30. doi: 10.1186/1472-6785-11-30.



# MAKING CHILDREN'S VOICES COUNT

*Don't judge too soon when children enjoy various online tools, says researcher **Dr Velislava Hillman** – and brings data to prove it.*

want to become a YouTuber, says Edgar (not his real name), a nine-year-old (at the time of this research) from a Maltese private primary school. 'I really like that people will watch me. It will be quite fun.' The next moment, the boy, much taller than the rest of his classmates, expresses sadness. 'I'd like to keep it a secret,' he suddenly adds, 'Because they [his parents] won't want me to be that, so when I grow up they will not have any choice but will comply. I think they want me to be a scientist or [something] like that...'

Edgar is not alone in exemplifying how networked technologies become a conduit of possibilities for young people. Children use their devices to learn how to draw, read about diseases and warplanes, make miniature movies about things they find funny, or sing along to favourite artists. To make sense of children's networked worlds spanning across classroom walls, I (Dr Velislava Hillman, Harvard University) carried out a qualitative nation-wide research in Malta during 2014–2016. I wanted to find out how seven- to ten-year-olds use digital media inside and outside classrooms, and how parents' and educators' react.

Most researchers focus on networked technologies' effect on children's psychological and socio-emotional wellbeing and development. Knowing how much knowledge there is on the risks, I focused on the opportunities and developed a theoretical model for fostering creative production, which could easily be applied to the mainstream ICT curriculum.

## **TECHNOLOGICAL SKILLS OR CONTEXTUAL LEARNING**

Children enjoyed richer digital experiences outside of school. The majority used technologies to consume and

interact with existing content rather than create new material for personal projects. Yet children still found the range of experiences and opportunities to follow personal interests to be wider after school hours.

Most digital media practices at school focus on basic reading, writing, mathematical, and technical skills. Children described their digital media use in class as 'practising maths', 'reading comprehension', or 'making PowerPoints'. The national ICT curriculum learning objectives are about picking up skills like emailing and content creation. However, they have no context where these skills could be applied.

Digital devices create opportunities for children to independently navigate through content, tools, ideas, and networks in unprecedented ways. Many parents and educators interviewed for this study tended to lump activities together without looking into the nuances between one game and another, one YouTube video and another. However, research has demonstrated that entertainment and educational uses of games and videos overlap, so it is very important that parents play the video games their child enjoys to realistically evaluate the qualities and skills many games provide. Those parents who haven't tried the games are more likely to misjudge these activities.

Similarly, taking selfies may seem like an idle act or, as a private school teacher put it, '[Children] just don't care – [because the ability to take pictures] is there, and because everyone else is doing it. They don't really know what they're doing'. A school principal called today's generation 'a culture of narcissists' because 'they're learning from these YouTubers that it's all about the looks'. However, taking selfies can be a meaningful experience for a nine-year-old. To a ten-year-

## SMALL STEPS FOR LIFELONG LEARNING

Here are some small steps that can foster self-directed learning:

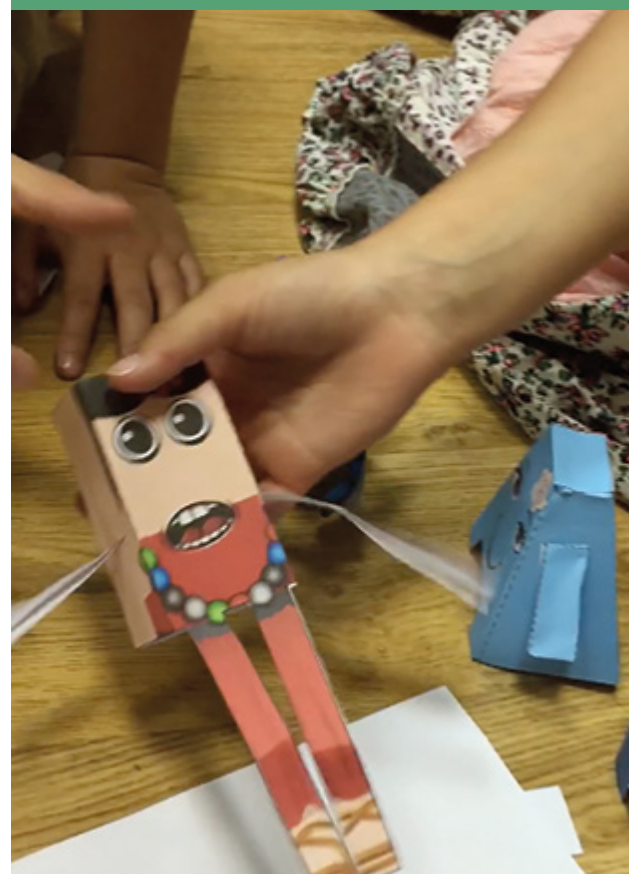
- Instead of simple interaction and consumption, encourage children to make things that are meaningful to them or people in their lives: a project, product, or gift (e.g. using Foldify, Book Creator, iMovie, Telestory, ComicStrip and so on (see commonsensemedia.org for great app reviews and suggestions).
- Instead of making children copy from existing templates, allow them to create their own formats (more sandbox, less factory-type learning).
- Let them choose their own subject — chemistry, sports, culture — anything, as long as they make a meaningful creation.
- Group children together to practise social skills.
- When boredom or distraction seeps in, steer the activity using questions, conversations, a snack, or simply taking time off.
- Finish the project, share, and reflect. What went wrong or well? What happened? And what will happen next?
- Make assessment a shared responsibility. Review together; engage next door classes for 'blind' reviews.

old boy from a state school, the photos he takes serve a purpose: 'I use [them] for skins I create on Minecraft.' Others take selfies and pictures of things they like so they can share them with friends and relatives.

Few parents and teachers positively valued the way children used networked technologies. Most leaned towards negative perceptions. Meanwhile, when given the opportunity, children fondly discussed what activities like taking selfies meant to them. This does not disregard the concerns of spending time on social media and the risks children can experience online. My research highlights the child's voice and perspectives on the things they enjoy doing, how, while caring, adults may misinterpret this voice and the opportunities digital technologies can provide. AI-based technologies are enabling 'personalised' learning, as the software automatically adjusts instructions to user behavior. Educators and policy makers should ensure that these tools are developed while taking into account students' voices and perspectives.

As Edgar dreams of becoming a YouTuber and making people laugh for a living, he keeps learning new skills. It would be wrong to focus only on the risks and omit the opportunities. My research led to several policy pointers that should help educators shape schooling into a more student-led, self-directed, and contextualised learning experience. Children will seek out networking opportunities in any case, so they need to be equipped with socio-technological skills. While critics argue that simply leaving children to their own devices can lead to mindless tinkering and boredom, this research highlighted the important role of teachers to steer students in their creative production with digital tools and to enable their greater potential. Acknowledging children's perspective is the first step.

**Full study forthcoming as a monograph as part of the Journal for Education Research Monograph Series. Contact Prof. Carmel Borg, Editor, Education Research Monograph Series (ERMS) at [carmel.borg@um.edu.mt](mailto:carmel.borg@um.edu.mt)**



Participants working with Foldify - a software application



# IDEA

## Speaking the language of machines

*How does artificial intelligence figure out human language to create its own learning curve?*  
**Christian Keszthelyi** talks to one of Malta's leading AI researchers, **Dr Claudia Borg**.

**M**achine learning today means that, if given appropriate architecture, a machine can absorb and store information by itself. Amid the buzz around artificial intelligence (AI), Dr Claudia Borg, a Maltese morphology (word formation) expert, decided to find ways for utilising AI for language processing – a subfield focusing on programming computers to analyse natural language data. It led her to the contested topic of how users' bias affects software development.

Borg is happy to shatter the image of AI researchers as IT-obsessed prodigies. She tells me about being considered a slow learner as a child, late in learning to read and write, receiving bad marks, and failing exams in several subjects. Her school results started improving at the age of 12, with extracurricular help. She did not consider herself a high-achiever at that age, and struggled to discover what motivates her after graduation. 'I would jump from job to job because I found them boring. For example, I have done the accounts of a company for this year, the next year I will do the same. There is not going to be anything new or more challenges, so, what's next?' she recalls. Borg gave a programming course a try and fell in love, finally discovering 'something

very logical, step by step,' that lead to an aha-moment. Being posed with a problem and seeking solutions appealed to her.

Having entered the University of Malta (UM) as a mature student, Borg got involved in a research project on natural language processing for her Master's degree. She worked with software to parse pieces of text, identify the keywords, and give definitions to assist e-learning. She started working with the Maltese language for her research, and her curiosity and love for the logical led her to complete a PhD, looking at ways to break down Maltese words to understand the grammatical meaning behind the chunks. Fast forward some years and you will find her as a lecturer in Artificial Intelligence – among many other subjects – at the Faculty of Information & Communication Technology (UM).

### A COMPUTER BRAIN?

Borg walks me through the development of the logical, algorithmic world of AI. Today's machine learning uses neural networks. As a technique, it has been around since the 1980s, though to gain popularity, it needed to wait until increases in machine power allowed researchers to build bigger networks that were a lot more powerful. 'Neural networks work just like the brain. There are cells of information ▶







Dr Claudia Borg

*'We no longer provide specific linguistic features. We have algorithms that can learn these features on their own,' Borg says.*

that are connected, and only certain cells will fire up when information is activated, based on what is needed or what is happening,' Borg elaborates. 'Researchers set up the architecture of the network of these neurons, but the learning happens on its own.'

Every cell in a computer-based neural network is a mathematical function. When a signal comes into a cell, it will either send a signal to the next cell it is connected to, or remain dormant. 'We no longer provide specific linguistic features. We have algorithms that can learn these features on their own,' Borg says. Neural networks are like black boxes — researchers do not really know what happens in them unless they look inside and analyse them. 'We open this box and hook up a different algorithm to certain aspects to see what is going on,' Borg says. This area is called explainable AI.

Before, with statistical techniques, the machine learning process was very transparent, but today it takes quite a while for researchers to understand how the network learns, since researchers do not input the features anymore. With statistical techniques the process was much faster — researchers would mock up the model and it would work. Deep learning requires much more data than traditional statistical machine learning methods.

Yet this is what makes AI more human-like. It takes more than a year before toddlers start uttering words. In all that period the baby keeps absorbing data. Likewise, deep learning takes its time depending on the architecture and the processing power of the machine. This is why big tech companies keep collecting data on the go. Borg hopes that one day corporations will share their data with academics for research.

Borg's field has a problem: data for the Maltese language are scarce. To overcome the problem, researchers need to think outside the box.

Transferring the knowledge they have from high-resource languages such as Italian, Spanish, and English, they can do cutting-edge research related to Maltese. Since Maltese is influenced by multiple languages, researchers can input features — language characteristics — from these languages. This allows the machine to process more training data, bypassing the problem of the lack of data in Maltese. Trained with additional data, AI tools can then study Maltese sentence structure, grammatical analysis, and machine translation.

Most AI we see in movies and popular media, outwitting humans, are not possible today. Today's AI is task-specific and narrow. To work well, it needs a



**Dr Claudia Borg giving a talk**  
*Photo by Abigail Galea*

specific focus on a task or domain. 'The aim of General AI is to have a singular machine that is able to learn and communicate about any subject in an autonomous manner. So far, we do not have the evidence that we will reach this milestone any time soon. However, we do need to think about the implications that such a system would have on every aspect of our lives, and we need to ensure that we have a strong ethical framework in place,' Borg says.

### **HUMAN BIAS; MACHINE BIAS**

In 2016, Microsoft launched an AI bot on Twitter, Tay, that absorbed knowledge from tweets. Quickly the 'machine' started sympathising with Hitler's ideas, denying the Holocaust, and using racial and sexual slurs. Microsoft gave limitless access to Tay, and forgot to factor in that people can be awful. But how can we prevent AI

from learning the socially unacceptable? One of the problems with AI is that we, as people, have bias – conscious or not, Borg explains. '[Let's say,] I walk into my classroom and ask everybody to draw a pair of shoes, the first shoe that comes to their mind. Because I have a gender bias – not a lot of women in my class – I am going to get sneakers and not high heel shoes.'

So how can we overcome our individual biases affecting the solutions we create? 'What we need to do is to educate ourselves better and become more aware of our own inherent biases. Diversity is key. Our biases pose challenges to AI [...] We are aware of our biases, and still they keep on happening,' Borg reflects. These distortions affect the usability of AI tools.

Natural language processing is one of the perfect examples where such biases can be explored. Machine translation

might automatically translate a sentence using a male pronoun because it is more present in the training data, which contains the hidden biases of developers. Researchers around the world are trying to see how to remove such biases and balance things out.

'We need to take a step back and focus on education. When creating technology, we must be aware of our biases, conscious or unconscious. Which is why it is so important to have diversity within our workforce. It is not a matter of gender balance or any other quota. It is simply a matter that if something is to serve everyone, then everyone needs to be represented. Only then can we ensure that our biases do not end up in the systems we develop,' Borg says. **T**

*This article was written in collaboration with Business Malta.*





# START UP

# Delicious delivery for your muscles



*It is challenging enough to keep a workout routine, let alone cook nutritious, varied meals at the same time. What if sporty people could have unique meals delivered to their door? **Marija Camilleri** meets a team that fills this business niche and fitness enthusiasts' stomachs.*

You are what you eat, that's conventional wisdom. But many of us lack the expertise and time to purchase, prepare, and cook healthy meals. Usually we end up cooking the same things every day without trying to be creative. Mark Cassar, a body-building and fitness enthusiast, understood this frustration all too well, and so together with his long-time friend, Aaron Buhagiar, they decided to create Fortify, a meal-prepping service.

Restaurants and food trucks might be on every corner, yet foodies following particular diets still face a challenge to find somewhere to eat. Cassar and Buhagiar discovered this market niche. 'We realised that there is a great demand for this business model, and we know through research that gym-goers and body-builders are willing to invest in our product,' says Cassar.

Cassar and Buhagiar have known each other for over 20 years and have invested in property together. Creating a joint business felt like a natural next step, and the two would regularly discuss ideas. These were usually in the food industry, their shared passion. Buhagiar took this one step further and enrolled in a Masters in Entrepreneurship at the University of Malta, which gave him the means to further

develop their idea, create a business plan, and make it happen.

'When starting up [the business], Mark's background in body-building helped us a great deal. Not to mention that we were able to use his connections in the bodybuilding industry,' says Buhagiar. 'We partnered with the Malta Federation of Bodybuilding and Fitness for their IFBB competition and started our market research from there,' he adds. They sponsored the competition and managed to attract many foreign and local clients from the event. The two later went on to provide meals for other bodybuilding competitions in Malta.

'We initially wanted to target individuals who are into fitness. However, as time went by we realised that more people could benefit from such a product. These include people who have no time to cook, or live by themselves, or even individuals who want to sustain a healthy lifestyle but don't necessarily have the means to,' Buhagiar continues.

Despite business running smoothly, the two friends were still not satisfied. Outsourced food was not living up to their expectations, and they struggled to find subcontractors who understood their vision. The pair started contemplating a partnership with a chef, someone who believed in their product and passionately wanted to create the best version possible. Their thoughts floated to an old friend, Mauro ➔





**The Fortify team**  
*Photo by David Borg*

Leonardi, who was in his final year of obtaining a Master Chef Diploma. 'Mauro and I have known each other since secondary school, and when Aaron and I were discussing this issue, he immediately came to mind,' says Cassar.

'At first I was intrigued but slightly sceptical. We met up multiple times to discuss [the idea], and I came to the conclusion that there is a market for such a product, so I decided to go for it. It's different from my previous experience in catering, and the new challenge excited me,' recalls Leonardi. As the experienced chef joined the team, it became clear that they needed a bigger kitchen, as many of their clients would order up to five meals a day. Also, they couldn't meet their clients' expectations and would occasionally have to refuse orders when they exceeded their capacity.

'We decided to pause our marketing efforts for some time. We are here for the long haul and want to fully invest in our product to create a sustainable business model,' comments Buhagiar. Together, they started looking at different kitchens to invest in. In December 2019, they finally came across a kitchen in Mosta that met all their requirements. 'The property needed a lot of investment, as it had been closed for the past seven years and contained no equipment. But it is perfect in size,

and it gives us the flexibility we need. We now have the capacity to produce 800–1,000 meals a day,' says Cassar.

Alongside the Fortify business, the team members have kept full-time jobs. Leonardi and Buhagiar both work with different gaming companies, the first as a chef and the second as a data analyst. As for Cassar, he continues working with financial control and business development in the manufacturing industry. 'Currently our days are full from 6 am to 10 pm, as we still deliver the meals ourselves for now, sometimes before or after work. At the same time, we are busy renovating our new kitchen,' they add.

When Cassar and Buhagiar first started dreaming about venturing into the food industry, they approached the TAKEOFF incubator housed at the University of Malta to become members, as they had both become new fathers shortly before, and needed a quiet place to develop their idea. 'We enjoyed working with Ing. Joseph Bartolo, Prof. Russell Smith, and Prof. Juanito Camilleri. We would have regular meetings with Joe [Bartolo] where he would mentor us,' comments Buhagiar.

They are also eyeing the incubator's seed fund, although the product was still in its infancy the first time they applied. After a year of testing out their prototype, they plan to reapply with a more solid and precise business plan.

In the meantime, the Fortify team developed a new product and a fully functional website. The latter will allow clients to customise their weekly meal plan, book their meals up to a week in advance, and get them delivered to their address at a selected time of day, morning or evening. 'We look forward to being more flexible in the future, but the service will be slightly rigid for now as we are adamant on offering the best service to all our clients,' Buhagiar adds.

Each meal contains a good balance of protein, carbs, and veg, and will be tailored to exercise regime goals. The client will have the option to customise meals to lose fat or build muscle, for example. 'We will also be offering a completely new customisable service, where the client can provide us with their personalised nutritional plan from a nutritionist, and we will then cater to it,' says Buhagiar. The client will upload the meal plan and the team promises to cover everything in the plan, even snacks like yoghurt or nuts. 'In the future, we would also like to start producing our own protein bars and desserts that can be added to the order,' adds Leonardi.

The Fortify team are aware that their consumers tend to be environmentally conscious, and are looking into switching their microwavable containers to biodegradable packaging. They also want to offer reusable containers to return clients to cut down on waste.

Knowing their clients well is essential. 'In the past year, we have focused a lot on developing a relationship with existing clients. We have received a lot of feedback. When delivering meals before and after work last year, we would sometimes spend up to 30 minutes speaking to each client. It was time well invested, and we are very grateful that we started at such a slow pace as we learned a lot from them, not to mention we managed to build an element of trust,' says Buhagiar.

It doesn't end there for Fortify, Buhagiar says. 'We believe that the meals are just the beginning. In the future, we would like to tap into the educational side of nutrition and fitness, as it's an essential aspect of one's life, and we believe that we can help many individuals achieve their fitness goals.' **T**

*This article was written in collaboration with Business Malta.*





Justin Xuereb testing his circuit  
Photo by Reiko Raute

# LAB TO LIFE



# LET'S RETHINK OUR MOTORS


From washing machines and vacuum cleaners to air conditioners and fans, household appliances all contain electrical motors, and we tend to take them for granted. However, appliances' high starting currents can disrupt electricity supply and shut down a whole house. **Daniel Lendi** unpacks some of the hard work needed to fix this problem.

**M**y (Daniel Lendi) tech-savvy generation takes many things for granted. Entering the Electrical and Electronics Engineering course at the University of Malta (UM) helped me realise just how much thought and effort humanity has invested in technology. My passion for electrical motors and their applications grew further at university, and until today, I'm fascinated by how an electrical current passing through some copper wire can lead to the physical rotation of a motor shaft, driving electric cars and pumping water.

My time at university also taught me that these motors introduce complications when they start. High currents can trip the Miniature Circuit Breakers inside your consumer unit. When ACs start they draw six to eight times their normal amount of energy; switching on your AC could even make your neighbour's lights flicker! Dedicated motor starters are introduced to tackle these complications. Dr Ing. Reiko Raute (Department of Industrial

Electrical Power Conversion, Faculty of Engineering, UM), with whom I worked on my dissertation, has come up with a novel prototype that aims to improve on these motor starters. Being part of his team allows me to further my studies while gaining valuable insight into industrial product development.

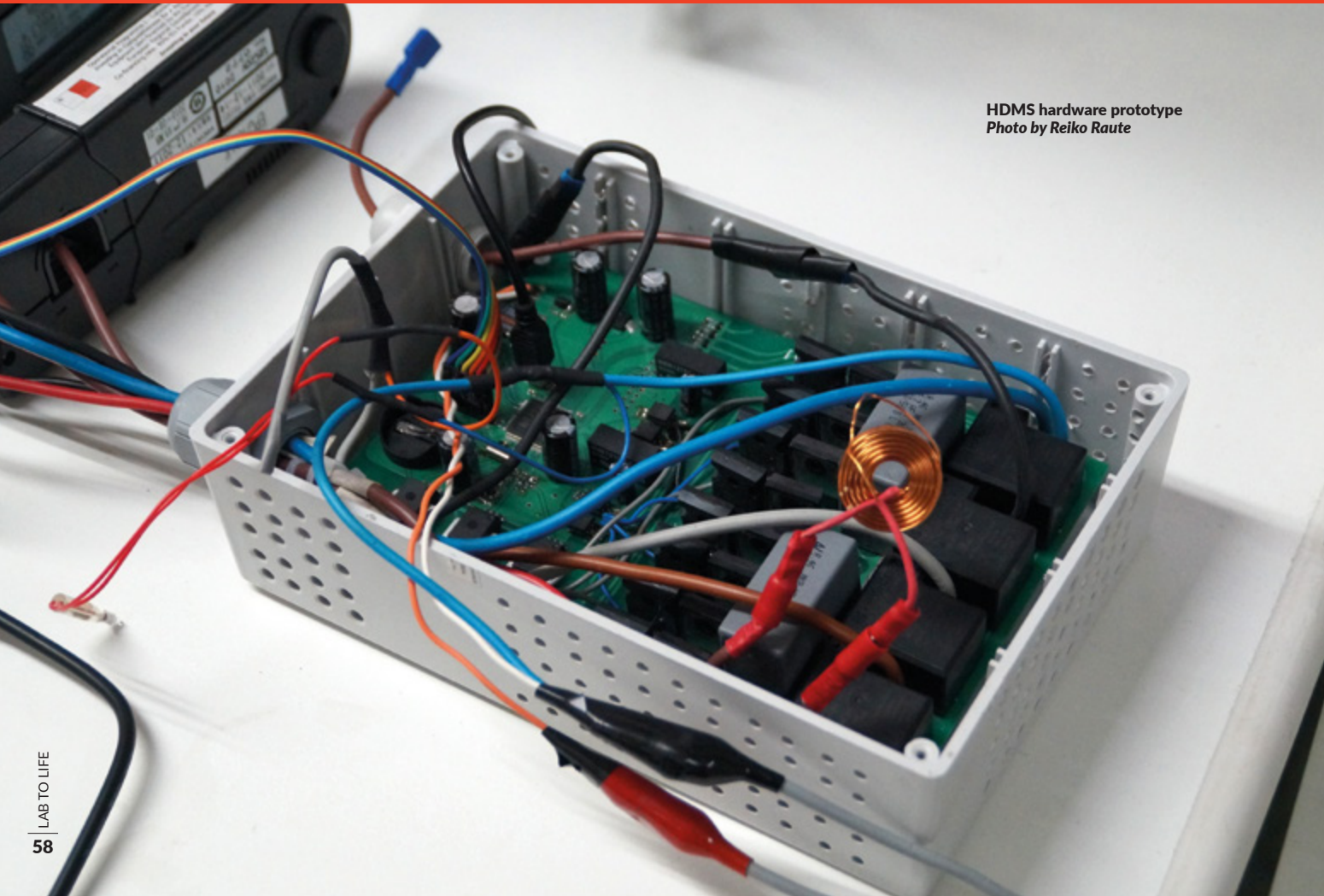
One type of these motor starters is the soft starter (a category of reduced voltage starters). The soft starter decreases the voltage to the motor, reducing its current and keeping your house lit up. However, as a consequence, they reduce the motor's torque – a measure of the motor's rotational strength. A lower torque means that the motor doesn't turn strongly enough, making your AC inefficient and possibly damaging the motor.

Raute is trying to overcome these problems with a new prototype High Dynamic Motor Starter (HDMS). The HDMS is a soft starter which tackles the issue through a fundamentally different approach. Using a dedicated control algorithm (computer code that carries out 





Motor test rig  
Photo by Daniel Lendi



HDMS hardware prototype  
Photo by Reiko Raute



**Justin Xuereb, Dr Ing. Reiko Raute and Daniel Lendi**  
*Photo by Racquel Ellul*

specific tasks) and a novel hardware circuit, the HDMS is able to achieve excellent starting current reduction without sacrificing so much motor torque. The development of this prototype is part of a research collaboration between UM and the development division of electronic equipment designer and manufacturer Carlo Gavazzi. Our industrial partner ensures that the product meets market expectations. Prototypes of the HDMS soft starter have already been constructed and are now being tested in heat pump installations in the UK, France, Ireland, and the USA, collecting data from each motor start they carry out.

The development of the new starter is an ambitious feat. Our team divided it into two projects. My part is analysing the HDMS control algorithm stability and its optimisation. I took up a study module on control engineering to better understand what's going on. The aim is to ensure that the HDMS regulates and reduces the starting current in the most stable and efficient way, using both the simulation models and the hardware prototype. For the hardware tests we built a test rig which is able to measure a motor's torque during start-up. I have concluded the analysis, the most tedious part of my project, and am finally moving on to hardware tests to confirm its findings.

My colleague Justin Xuereb focuses on the second project. He investigates the dynamic overload performance of the switching devices. Think of dynamic overload performance as similar to a workout: You are at the gym training with some weights, and are capable of carrying out your routine with 40kg of weights. But you want a bigger challenge and add another 20kg of weights to see how you perform for a few repetitions. This is what is done with the dynamic overload performance of the switching devices, overloading them for a short amount of time and studying their performance. Xuereb has already designed and implemented several revisions of a dedicated test circuit to investigate the overload performance of the switching devices.

My analysis has shown that Raute's creative idea adheres to control engineering theory. The work is still continuing to ensure the HDMS' market success. When the next-generation single-phase soft starter product for Carlo Gavazzi becomes a marketable product, our ACs will start more efficiently, even in the midst of summer. **T**

**The project is funded by the Malta Council for Science and Technology (MCST) R&I Fusion Technology Development Project R&I-2016-035-T**

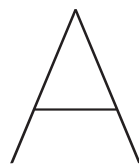


An open book is held by two hands, with the pages fanned out. The lighting is warm and golden, creating a sense of depth and focus on the text. The background is a blurred, textured surface, possibly a wall or a bookshelf.

# THE TREASURER OF KNOWLEDGE



The poet and former tour guide **Emmanuel Julian Cachia** has reinvented his professional self multiple times before settling down at the Central Bank of Malta. **Vanessa Macdonald** writes.



Ask Emmanuel Julian Cachia to describe himself in a few words and unlike most people faced with this question, he does not pause to search for words:


'A curious man'. This might be the perfect attribute for a librarian, surrounded as he is by the accumulated knowledge and wisdom of books. But it falls far short of describing him.

Delving into his childhood merely adds to his mystique. Growing up, he wanted to be either a chef or a broadcaster. But his life took a dramatic turn when his mother received a cancer diagnosis and subsequently spent seven years battling it before she succumbed. These seven tough years made a huge and lasting impact on Emmanuel – then 23 – and his much younger sister.

The trauma of that diagnosis threw him into a bout of depression, the first of many that haunt him till today. It also sparked a deep emotional response, which found its voice through poetry. His first poem, written soon after her death, was about a bull – the metaphor representing what he saw as the savagery of the disease. Writing provided some solace for the pain he feels to this day, and over the past few

decades, he has gone from sending his work to colleagues to having it published in newspapers. Facebook gave him a new channel to share his works, and he now posts a poem around once a week. In January, the Senglea Council organised a musico-literary evening dedicated to his works, with the intention of raising funds for Richmond Foundation's work to fight the stigma associated with mental health issues.

Cachia's prolific writing provides an outlet when depression tightens its grip on him, but he remains very wary of what he describes as 'the cold that will not go away, no matter how many clothes you put on'. But what happened to his ambitious career plans? After a short stint working as a pharmacy technician and a museum guide at the Inquisitor's Palace, his eventual workplace materialised out of much earlier memories. As a very young child, he set off to Valletta with his grandfather on a Saturday morning. They had gone to the Central Bank of Malta at Castille Square to deposit a cheque and, looking around in awe at the grand building, he had told his *nannu* that, one day, he wanted to work there.

And so it came to be. After sitting for an exam to get a job in banking, Cachia landed an 





*Cachia is as passionate about his role at the Central Bank of Malta Library as he is about his poetry. ‘An old saying goes, “Choose a job you love, and you will never have to work a day in your life”.*

opportunity as a clerk at the Central Bank of Malta – to his mother’s great joy. Just before she died, she gave him a black leather attaché case, which he cherishes to this day.

He worked his way up through various departments, but it was an encounter with then librarian J. R. Grima that changed his life. His mentor encouraged him to study, and his diploma in Library & Information Studies at the University of Malta led to several others, including a Masters. When Grima retired as a university lecturer, Cachia took his place. By this time he had taken over as the Bank’s librarian, a position he has held for 25 years.

Cachia is as passionate about his role at the Central Bank of Malta Library as he is about his poetry. ‘An old saying goes, “Choose a job you love, and you will never have to work a day in your life”. I do consider myself lucky that I did indeed find out what I like doing best and the Bank is paying me a good salary for doing it!’ he says. ‘For me, the Bank’s library is like a big central train station – Frankfurt’s Hauptbahnhof – where information seekers connect, interact, and have lasting relationships with the staff and information sources.’

Today, the mission of the library is to excel as Malta’s principal facilitator of financial, economic, and social research; to support and promote scholarly

debate, and to disseminate scientific knowledge. Mission statements all too often just gather dust – but Cachia takes an active role to attract people to the services available through the library and his staff.

He has successfully pushed for a three-year strategy which aims to provide relevant, up-to-date information and knowledge to the Central Bank’s staff as well as its visitors – to serve as an information centre for academics, researchers, students, and anyone else who may be interested.

Somewhere, his grandfather and his mother are surely smiling.

## **LIBRARY COLLECTION TOUR WITH EMMANUEL CACHIA**

### **BOOKS**

The library, established in 1968, has a collection of works on economics and finance, ranging from fiscal and economic policy to European studies. Cachia emphasises the value of storing



**Emmanuel Julian Cachia in his element**  
*Photos by Melvin Bugeja*

*The Malta Blue Book*, full of statistics on the Maltese population, trade, infrastructural projects, hospitals, the penal system, and more. Some Blue Books contain very distinctive illustrative material, ranging from beautiful watercolours of local flora to delicately drawn section maps and street plans. The oldest volume at the Bank's library is from 1925.

## JOURNALS

The library subscribes to various specialised academic journals on economic and finance research, covering price stability, macroeconomics and more. More than 6,000 journals and magazines on business, marketing, management, accounting, banking, and finance are now digitised.

## NEWSPAPERS

Have you ever considered catching up with the news in the Central Bank's library? Cachia says it's well-suited for that purpose, because all the local newspapers, news items and articles

relating to the nation's economy are catalogued in special clippings files.

## ANNUAL REPORTS

The library stocks the annual reports from Maltese public companies quoted on the Malta Stock Exchange, as well as those of other institutions, such as the Malta Financial Services Authority.

## PUBLIC LECTURES

The library organises lectures on Malta's economic history every two months and has had other lectures by prominent experts like banker John Consiglio, archivist Charles Farrugia, historian Yosanne Vella, and researcher Carmel Vassallo.

## RESEARCH ASSISTANCE

The library of the past was defined by transactional services – lending and returning books – but nowadays it is all about building relationships. The library's three-year strategy with the concept of embedded librarians reflects the turn.

'My aim is to provide services that focus on the needs of one or more specific groups, building relationships, developing a deep understanding of their work, and providing information services that are highly customised and targeted to their specific needs. In effect, it involves shifting the basis of library services from the traditional, transactional, question-and-answer model of reference services to one in which there is high trust, close collaboration, and shared responsibility for outcomes. I believe that the Bank's library is already in a position to do so with the Bank's researchers. With additional resources we can extend this to others,' Cachia says, reminding that students and academics are always welcome in his library. 'The more resources we have, the more people we can help!' **T**

**Please contact Emmanuel Cachia** ([library@centralbankmalta.org](mailto:library@centralbankmalta.org)) or call (2550 4507) or visit: <https://www.centralbankmalta.org/en/register>



# TO-DO LIST

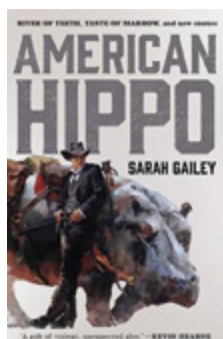
## MUSIC



### Sean Rowe

The singer-songwriter and naturalist's music is the perfect tune to get lost in the woods to.

## BOOK



### American Hippo by Sarah Gailey

A classic Western novel... with hippos? Alternate history is rarely as fun as in this two-part series.

## MOVIE



### Green Book (2018)

This Academy Award-winning movie highlights the racial tensions that arise when a working-class Italian-American bouncer becomes the driver of an African-American classical pianist on a tour of venues through the 1960s American South.

## YOUTUBE CHANNEL



There is philosophy in everything! **Wisecrack** puts a lens to some popular (or not) media and takes a deep dive into its inner workings – from the question whether the Shrek movies are deep or silly, to Gazing Into the Abyss with Nietzsche, Rick, and Morty.



## TV



### Patriot Act with Hasan Minhaj

Exploring a variety of topics from modern culture to politics, Hasan Minhaj hosts the award-winning satirical comedy web television talk show.

## PODCAST



We are doubly excited to feature ReThink – first of all because we believe it's a great show, and then because it is our team's very own follow-up on past stories published in THINK. Look for 'ReThink Malta' on your podcast app.



## INSTAGRAM



### nature.trust.malta

Where are the roving turtles? See turtles' whereabouts, cute hedgehogs, and some gorgeous views of Malta on this NGO's Instagram.



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