

ISSUE 69

# CREATIVITY AND INNOVATION

**M C A S T   L I N K**

Malta College of Arts, Science & Technology  
+356 2398 7200 | [mcast.edu.mt](http://mcast.edu.mt)  
Follow us at [mcast.edu.mt](http://mcast.edu.mt)



## CONTENTS

Principal and CEO Message	3
Celebrating Craftsmanship	4
Artistic Journey at MCAST	8
MCAST Graduates Shine at The Malta Fashion Awards	10
Branding Identity of the ICA Festival 2024	14
MCAST Fashion and Performing Arts Students Dazzle with 'Fashion Unleashed'	16
Breaking New Ground: Exploring innovative paths in Performing Arts	18
From Dead Geckos to Political Satire: Mcast's 'Id-Dar Tal-Friefet' play sheds light on Malta's environmental challenges	21
Kampusajf: A Multi-Disciplinary Artistic Feast	24
Fostering Innovation and Sustainability in Mediterranean Agriculture	26
Hair Harmony	28
The Pianist who Plays Among the Stars	30
In their own words...	34
Creative Solutions for Tomorrow's Urban Mobility:	42
Mentorship: MCAST Revolutionizes Learning with ESF 02.058	46
MCAST invests in new Cutting-Edge Cyber-Physical Lab	48
Shedding Light on the Black Box: Neuro-Symbolic AI for Explainable AI Models	50
Creativity in Sports at MCAST	54
Revolutionizing the Tide: Disruptive Technologies adoption through Digital Twinning and Virtual Reality development for advanced water skilling	56
Enhancing Early Years Education through Innovative Collaboration - MCAST's and San Anton School's Creative Journey	60
Creativity and Innovation in Business	62
Insights from the Perugia Journalism Festival 2024: Embracing Creativity and Innovation	64
Bridging Communication for the Maltese Deaf Community	67

## NEWS

New MCAST President Appointed	72
Stephen Vella as New Principal and CEO, Bringing Over 20 Years of Vocational Education Expertise	74
Waterline Project Community of Practice Meeting held at MCAST	75
Spartacus Project: MCAST And SETU join Forces to Advance Aerospace Safety	77
Ambulant Research Project Helps Develop Innovative Marine Monitoring System	79
120 Students Complete The 'Future Innovators Summer School' Programme At MCAST	80
MCAST and OHSa join forces to boost the Health and Safety Sector	81
MCAST hosts the Inaugural Edition of the European Dual Higher Educational Conference	82
MCAST Institute obtains Associate Membership with the ALICE	84
Five agreements signed with Chinese Universities	84
Innovation Guide: A beacon for Rural Innovation Ecosystems begins its journey	85
Irish Principals visit MCAST	85
MCAST's Collaborative Masonry Heritage Skills	86
Research Fellowship Scheme launched at MCAST	88
President visits 2024 Business Career EXPO at MCAST	90
MCAST launches new Bachelor's degree in Sports Coaching	91
MCAST Aviation Department holds Aviation Courses Sectorial Meeting	92
Industry Professionals and Academics attend the Nursing Symposium at MCAST	94
MCAST and MCVS sign Collaborative Agreement	96
European Educational Associations announce International Conference	97
Exploring Sicily's Agricultural Treasures	98
Aviation Students at Malta in Space event	100
MCAST students participate in Euroscola event	101
Early Years Forum held at MCAST	102
President of the European Court of Auditors visits MCAST	103
MCAST holds STREAM Project	104
MCAST and the Malta Crafts Foundation sign MoU	106
Fundraising activities by the College Community	108
MCAST Hydration event promotes Wellness and Awareness	109
Innovative Approaches to Change Institutional Cultures in Higher Education: MCAST's INCLUSIPHE project at the VOICES Conference	110

# MCASTLINK ISSUE 69

Welcome to this exciting edition, one of the most enjoyable I've had the pleasure of working on. Themed "Creativity and Innovation," this edition highlights the remarkable talent flourishing at MCAST, a true hub of creativity.

We begin by highlighting the successes of the Creative Arts Festival, featuring the work of four talented students. Their projects range from an interactive animated sci-fi series about Artificial Intelligence to a set of anthropomorphic characters adorned with items from their local regions. Another fascinating article focuses on a dissertation that merges yoga practices with dance, breaking new ground in the performing arts and paving the way for innovative approaches in movement and expression.

An exciting piece by ICT student Mac Patrick Gauci details his journey to revolutionise communication accessibility for the Maltese deaf community. He has developed AI-powered assistive technology designed to translate spoken English into Maltese Sign Language (LSM) through a digital avatar. This marks an important milestone in bridging communication gaps.

This edition also celebrates students who have excelled at prestigious local awards. Fashion student Isaac Farrugia received the top award at the Malta Fashion Awards for his innovative and skillfully crafted collection. Nico Conti, an MCAST assistant lecturer and alumnus, and Federica Zahra, an alumna, received awards in the Glass Works and Ceramics category and Student Maker of the Year, respectively, at the Premju Ġieħ I-Artiġjanat Malti.

The EXCEL Winter School provided a valuable opportunity for students to develop creative solutions for tomorrow's urban mobility. It was an enriching educational experience, immersing participants in the realm of sustainable urban transport. By empowering students to influence the future of transportation, the programme served to bridge knowledge gaps and foster transformative experiences.

Another article highlights the transformative impact of MCAST's sports courses in supporting creativity among students. From technical programs to hands-on experiences, Dr. Caruana Bonnici shares how MCAST's dynamic sports curriculum empowers students to think outside the box and get creative in the sports sector.

We hope you enjoy reading this edition as much as we enjoyed putting it together, and that you find inspiration in the remarkable achievements of our students and members of staff.

# EDITORIAL



## Editor and Producer

MCASTlink is produced by the MCAST Communications Office.

Produced and edited by Caroline Balzan  
Communications and PR Manager

MCASTlink Editorial Team:  
Daniela Blagojevic, Natalino Fenech, David  
Kenely, Nikita Pisani

## Design

2point3

## Print

Tik Print

## Proofreading

Joyce Hili

## Photography

Jonathan Borg  
James Perry Zammit

MCAST Communications Office,  
Main Campus, Corradino Street,  
Paola PLA 9032, Malta

+356 2398 7200 | [mcast.edu.mt](http://mcast.edu.mt)  
Follow us at [mcast.edu.mt](http://mcast.edu.mt)





## PRINCIPAL AND CEO MESSAGE

Welcome to this edition of MCASTlink, where creativity and innovation stand at the forefront of our College's vision for the future. It is with great excitement and a sense of responsibility that I step into my new role as Principal and CEO of MCAST, bringing with me over twenty years of experience at MCAST in various roles, including Deputy Principal and Director of the Institute of Creative Arts. These experiences have instilled in me an appreciation for the transformative power of creativity and the possibilities that arise when innovation is embraced.

This edition, themed "*Creativity and Innovation*," highlights the talent flourishing at MCAST. We are committed to placing creativity at the very core of our teaching, learning and research. We believe that true innovation happens when boundaries are pushed and when ideas flow freely across vocational areas. The future demands creative thinkers, problem solvers and innovators who are capable of adapting to new challenges and shaping the world around them.

This edition of MCASTlink reflects our dedication to these principles. We will continue to foster an environment where curiosity is encouraged, where students are inspired to think critically and where collaboration between different fields of study fuels the discovery of new, creative solutions. Our aim is not only to prepare students for the workforce but to empower them to become leaders of innovation in their respective industries.

The College will also renew its focus on trades and crafts, breathing new life into traditional vocational skills while integrating them with modern technologies and creative thinking. This commitment aligns with the National Education Strategy, which envisions an educational system that values both craftsmanship and innovation. By blending practical skills with creative methodologies, we will provide our students with the tools they need to thrive in a competitive and rapidly changing global market.

Furthermore, MCAST is more than just an educational institution—it is a community of thinkers, makers and innovators. Our collaboration with industry partners will continue to play a crucial role in turning ideas into action. Through these partnerships, we will engage in projects that address real-world problems, providing students with hands-on experiences that go beyond the lecture room and benefit the wider community.

As we embark on this exciting journey together, I invite each of you to fully immerse yourselves in the creative and innovative spirit that defines MCAST. Let us work collectively to ensure that our College remains a beacon of inspiration, a place where ideas are born, nurtured and brought to life.

Warm regards,

**Stephen Vella**  
Principal and CEO, MCAST

# CELEBRATING CRAFTSMANSHIP BY CORYSE BORG, CONTENT WRITER

*The Premju Ġieħ I-Artiġjanat Malti 2023, which was held earlier this summer, recognises excellence in craftsmanship, innovative product ideas, and key contributions to the sector. Two of the winners this year were MCAST assistant lecturer and alumnus Nico Conti who received the award in the Glass Works and Ceramics category, and alumnus Federica Zahra who won Student Maker of the Year.*





Nico Conti grew up in Malta, surrounded by family and tradition, with a childhood spent playing and doing arts and crafts. Neither of his parents are particularly artistic, yet they were always so encouraging and really pushed him towards trying different art practices.

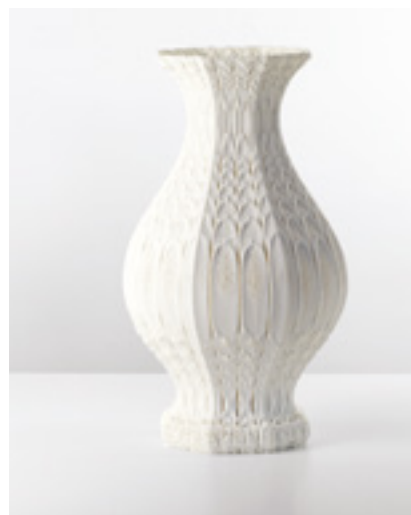
“My fondest childhood memory, aside from my love for drawing, is attending a polymer clay modelling course, which I absolutely adored,” he says.

As he grew older, he pursued a BA in Fine Art at MCAST ICA, where he experimented with many different mediums. Towards the end of his final year, he discovered the beauty of porcelain after reading *The White Road* by Edmund de Waal. This discovery led him to pursue a Master’s at the Royal College of Art in London, specialising in Ceramics and Glass.

During his time exhibiting in London, he received a very positive mention about his work from Edmund de Waal himself, bringing his journey full circle.

Nico specialises in 3D printed porcelain. What appeals to him most is the ability to create pieces that would not otherwise exist, allowing him to push the material into new, unexplored territories.

“I enjoy extruding very thin strands of porcelain, which showcase both the resilience and fragility of the material,” he states, “Despite its delicate appearance, porcelain is incredibly strong and resilient. This technique is not widely used, and for many, it might be slightly shocking - some even argue it is not craft. However, craft has always been about pushing boundaries, and the exciting, novel aspects of 3D printed porcelain draw many people in.”



One of his favourite pieces that he created is a porcelain work for King Charles III’s Coronation Cake. This piece holds a special place in his heart not only because of its intricate design but also for the honour and significance it carries.

“As a Maltese artist, being handpicked to create porcelain artworks for the King’s Coronation was an immense honour. The experience was made even more special by the choice to incorporate 3D printing, a novel technology, into such a traditional event,” he said.

Nico says that receiving the Glass Works and Ceramics award at the Premju Ġieħ I-Artiġjanat Malti was an incredible honour and a profound moment of recognition for his work.

“This award is a testament to the hours of dedication, creativity, and passion that I pour into my craft. It’s a moment of pride not just for myself, but for everyone who has supported me,” he said.

If he had to give a piece of advice to people who are thinking about pursuing a career in crafts, Nico says that first and foremost, they should pursue further education - whether locally or abroad - to better their skills and deepen their knowledge. Additionally, he suggests applying for funding, not being hesitant to ask for apprenticeships and, finally, being prepared for challenges.

“Despite the difficulties, if you are truly passionate and dedicated, a career in crafts can be incredibly rewarding. The sense of fulfilment and achievement when you see your work appreciated and acknowledged makes all the effort worthwhile,” he stressed.



Nico says that he is incredibly proud of all his students at MCAST, including, of course, Federica Zahra for winning the Student Maker of the Year award. He also commends MCAST lecturer Nadia Haber for believing in and nominating Federica.

An eighteen-year-old student in the Creative Arts at MCAST, Federica is pursuing a degree in product design. She developed an interest in crafts at a young age, after seeing her mother create various crafts. Now, she specialises in furniture design, where she makes unique and original furniture pieces.

She says that her craft has greatly improved because of her experience at MCAST.

“I took part in different workshops as part of my advanced diploma in art and design course at MCAST. Since I truly enjoyed woodworking, I chose to remain with it and make it my primary workshop. My early interest in this trade stemmed from the inherent beauty of wood and its adaptability as a material. Making beautiful, useful things out of raw wood is a task I appreciate,” she explains.

Federica says that it is a great honour to get the Premju Ġieħ l-Artiġjanat Malti 2023 award, and she sincerely appreciates all of the people who have helped her along the way. Her winning piece was mostly inspired by nature because it has a lotus flower-like form and she used dried prickly leaves in the design.

One of Federica's favourite pieces is the coffee table that she created during her second year in the advanced diploma programme, where she was inspired by the work of Charlotte Perriand and Ettore Sottsass, as they use different materials and colours and have many compartments.

She advises any student who is interested in a career in crafts to embrace their imagination fully.

“Never stop learning and seize any chance to increase the scope of your knowledge and abilities. Since the world of crafts is constantly changing, keeping up with the newest methods and trends will help you produce work that is original and new. Although obstacles and failures are unavoidable, try not to let them discourage you. Continue to develop your skills, have patience, and be committed. It will eventually pay off for all of your hard work.”







# ARTISTIC JOURNEY AT MCAST

By Alexia Micallef Performing Artist

From a very young age, I was drawn to the performance world. I began singing at the tender age of four and took up acting shortly after. This early passion for the arts truly shaped my life. I was always determined to excel, therefore during primary and secondary, I undertook rigorous training, completing vocal exams with Trinity College London and drama exams with LAMDA, consistently achieving strong results. During these years, I gained international performing experience by singing in various European countries. After completing my A Levels in Theatre Studies and English, I continued my educational journey at MCAST where I earned a Bachelor's Degree in Performing Arts.



My time at MCAST was an invaluable experience. I had the privilege of connecting with inspiring peers and had the opportunity to collaborate with industry professionals through work placements. A highlight was working on a project called 'Mitt Ruh' with one of my lecturers, a renowned theatre practitioner and dramaturg. This production significantly broadened my perspective as an actor. Through this experience, I also secured a teaching position in the dramatic

arts at 'Theatre Lab Malta', where I could share my passion with the next generation. A crowning achievement that will always hold a special place in my heart is winning the Malta Premju għall-Arti for Best Community Project for our second-year performance, "B'Saħħtek." This performance featured my song "Fil-Kexxun," which won the 46th edition of the Ghanja tal-Poplu in 2022.

MCAST greatly enhanced my artistic abilities. I developed a deep understanding of stagecraft including both performance and technical elements. Throughout my three-year course, I refined my time management and problem-solving skills through group projects which enhanced my collaborative abilities. I also gained versatility as an actor, expanding my emotional range and character development skills. This comprehensive training equipped me with a strong foundation for a successful career in the performing arts.

My professional journey began before I completed my studies, therefore I was already working in the industry while studying. I balanced my academic work with acting roles in various theatre and TV projects, as well as performing live gigs in pubs, restaurants and other events. Since completing my course, I've been able to focus more on my career, which has flourished with increasing opportunities in both theatre and singing. Furthermore, I was chosen by the Arts Council Malta to represent our country as a singer in The Sound of Europe in Ankara, Turkey. I also got the opportunity to work abroad in the industry for a few months. I am incredibly grateful for the growth of my career.

My ultimate aim is to establish a successful career as a versatile performing artist and work solely in the industry. I plan to achieve this by working hard, always doing my best, and keeping an open mind to reach my goals. I believe in dreaming big and persevering to make those dreams a reality. Whether on stage, on screen, or in the recording studio, I am committed to delivering exceptional performances that resonate with audiences. I truly look forward to collaborating with talented individuals to create inspiring work in the near future.

For aspiring artists, I wholeheartedly recommend furthering their studies at MCAST. The hands-on approach and mentorship from industry professionals offer an invaluable foundation. Additionally, opportunities to collaborate with various artists through placements and workshops are incredibly beneficial. My advice is to no matter what, always follow your dreams. With dedication and passion, you will achieve your artistic aspirations.

# MCAST GRADUATES SHINE AT THE MALTA FASHION AWARDS BY CORSYE BORG



**STANDFIRST:** *The Malta Fashion Awards have become a staple occurrence on Malta's annual events calendar. This year a number of MCAST Institute for the Creative Arts graduates were given the opportunity to showcase their skills and talent during this prestigious event held earlier this summer.*

This year, the top award was given to Isaac Fenech, whose collection impressed the judges with its strong concept and meticulous craftsmanship.

According to Isaac, his collection was inspired by the anger that starts to seed and grow within us when the world disappoints us; how it can grow and devour us and change us into someone new.

"The visuals for this were derived from art of Macbeth, Greek mythology, Adam and Eve, Swan Lake and so on. The process started with primary and secondary research followed by mood boards. Then a few initial designs after with a month or two of experimentation and development of techniques was done in order to make designs possible. Followed by a few rounds of prototypes and the construction of the show ready sample," he explained.

Isaac gives special credit to his MCAST lecturers who gave him the foundations so that he was able to experiment and develop new techniques himself, adding that, the leading lecturer of his unit acted as someone he could bounce ideas off and ask for assistance in critical decisions.

"Participating at Malta Fashion Week in tandem with the reception of my work, has confirmed to me that the techniques and styles I'm currently focusing on are to the liking of a wide range of people, and considering a respectable amount of orders revived after the show, it confirms to me there is a market for my work. This gives me encouragement and excitement to keep pushing on the path I've chosen," Isaac said.

One of the nominees for the award, Miriana Ciappara - whose graduate collection was inspired by the concept of metamorphosis - says that taking part in the The Malta Fashion Awards significantly broadened her perspective on the fashion industry.

"A key takeaway for my future career is the necessity of staying open to new ideas and continuously seeking inspiration from various sources to keep my designs fresh and relevant," she said. "Showcasing my designs at Malta Fashion Week had a profound impact on my confidence as a designer. This experience has prepared me for future



shows and commercial opportunities by teaching me the importance of thorough planning, effective communication, and the ability to handle pressure."

Another nominee, Yentl Cuschieri said that although she has always had respect and gratitude towards makeup artists, hair stylists, models, backstage assistants and so on, after her experience with the awards, she found herself having a much bigger amount of respect towards the whole team.

Yentl's collection was inspired by her childhood - her parents, her brother, with whom she is very close, and her home, which was filled with colours, fun shapes, and stained glass.

“Going into it, I really didn’t expect the reaction I received,” she said. “I was aware that my designs are very bold, but after the show, I had a lot of people saying they loved the bold colours and the extremes I took my designs too, which felt amazing. It did give me a big boost of confidence seeing how much people loved them. I feel like it gave me the reassurance I needed to keep chasing fashion and believe that I will find ‘my’ customer who is looking for a bold, different, maximalist fashion brand.”

Nicolai Sciuto, whose inspiration for his collection came from the beauty and symbolism of rust, stressed upon the importance of networking at an event such as The Malta Fashion Awards, saying that interactions with the diverse people involved highlighted the necessity of building strong professional relationships and maintaining a strong network within the industry.

“This collaborative spirit is something I intend to embrace fully in my future career, understanding that great fashion often comes from a team effort.” he said. “Showcasing my designs at Malta Fashion Week had a huge impact on my confidence and readiness for future opportunities in the fashion industry. Receiving positive feedback from industry professionals, family and friends, and the audience was incredibly encouraging and re assured my belief in my talent and vision. This recognition was a major confidence booster, as it showed that my work could stand out and be appreciated in a competitive environment.”

According to Gabriel Grima, whose collection was inspired from the shapes and lines found in nature, this experience made him realise the value of adaptability and staying current with trends while maintaining a unique design identity.

He added said that this experience has equipped him with the confidence to pursue future independent shows and commercial opportunities, knowing that he can meet the high standards of the industry.”

“These insights will be fundamental as I continue to develop my career, ensuring I remain innovative and connected within the fashion community,” he said. “Showcasing my designs at Malta Fashion Week was a pivotal moment that significantly boosted my confidence as a designer. The positive reception and constructive feedback from industry professionals affirmed my creative vision and skills.”

All the graduates stressed that the mentorship, guidance, insights, emotional support, and encouragement from their MCAST lecturers were instrumental in them being able to develop their concepts and come out with pieces of such high quality.

We wish them all the best of luck in their chosen career. We are sure that they will go far.

*MCAST offers courses in Fashion at diploma level (Level 4) and bachelor’s degree (Level 6).*





**MALTA FASHION WEEK**  
Oliver Pace

# BRANDING IDENTITY OF THE ICA FESTIVAL 2024

The creative process behind the branding of the ICA Festival artworks is neither quick, straightforward nor linear. Instead, it is a journey characterized by the tension between chaos and control. Students in the creative arts understand that this challenge is an inherent part of the process, recognizing the significant value in the seemingly chaotic aspects of creativity. Errors, glitches, disruptions and disorder all contribute to the decision-making process in creative output, inviting audiences to experience a brand that is both dynamic and authentic.

In this process, creativity thrives in the space where experimentation and exploration meet discipline and focus. The interplay between these elements allows for the discovery of innovative ideas and unique solutions that push the boundaries of traditional branding. The ability to navigate and embrace this dynamic environment leads to the distinctive and impactful brand identity of the ICA Festival 2024.

The festival's visual identity is a testament to this creative journey. It captures the essence of artistic exploration by incorporating bold colours, unexpected patterns and unconventional typography.

**MCAST**  
**ICA**  
*festival*  
 '24

**MCAST** *festival*  
**ICA 2024**





**MCAST**

**ICAH**

*festival*

**'24**

JOIN US AT  
**SPAZJU KREATTIV**  
LOCATED IN VALLETTA

4TH JULY -  
8TH SEP

# MCAST FASHION AND PERFORMING ARTS STUDENTS DAZZLE WITH 'FASHION UNLEASHED'

by Christopher Lawrence Francalanza



On 17th June 2024, MCAST Institute for the Creative Arts dazzled audiences with 'Fashion Unleashed' at the Malta International Arts Festival, organised by Festivals Malta. This event spotlighted the talents of Advanced Diploma in Fashion and Retail students alongside Performing Arts students.

The show unveiled four stunning collections: 'Velata Anima', 'Precarious', 'Opulent Allure', and 'Remnant', featuring four collections consisting of a total of twenty-one garments.

'Velata Anima' vividly illustrated a woman's transformative journey through its exquisite designs. Luxurious fabrics like cotton, shantung, crinkled georgette, crepe satin, and organza symbolized the stages of her emotional evolution, from sorrow to self-acceptance. Each material embodied a unique aspect of the female experience, reflecting the depths of her emotions and the profound process of self-discovery and growth.

'Precarious' delved into the poignant themes of innocence, trauma, and healing. The line-up showcased a luxurious cotton-linen blend, delicate chiffons, and ethereal tulle, beautifully encapsulating both vulnerability and strength. The linen corsets stood as symbols of resilience, with meticulously chosen accessories further enriching the collection.

The theme 'Opulent Allure' focused on overcoming patriarchy and hardship. This collection had luxurious organza, satin, and gabardine fabrics symbolizing strength and allure. Meanwhile, handcrafted organza earrings, rouged gloves, and hats added a touch of elegance, highlighting adversity.

'Remnant' focused on personal transformation and liberation from social constraints. Using calico, burlap sack, and sheep wool yarn, the collection symbolized rebirth and resilience. Leaf armour and clay masks adorned with copper and burlap reinforced themes of emerging stronger and overcoming difficulties.

'Fashion Unleashed' was a testament to MCAST students' creativity. The fusion of fashion and choreographic movement accompanied by Bowz Duo's music, created an unforgettable evening of artistic expression and innovation.

This collaboration provided ICA Level 4 students an excellent introduction to the creative arts scene.



# BREAKING NEW GROUND: EXPLORING INNOVATIVE PATHS IN PERFORMING ARTS

by Juliana Zammit, MCAST student reading for a BA  
(Hons) in Journalism



Rebecca Grech is pushing boundaries in her dissertation through the fusion of dance and yoga. A third-year student at MCAST Institute for the Creative Arts, pursuing a Bachelor of Arts (Hons) in Performing Arts, she is set to captivate audiences at the ICA Festival hosted at Spazju Kreattiv.

Rebecca's project challenges conventions in both dance and yoga, showcasing her lifelong passion for movement and expression. Having started ballet at the Royal Academy of Dance at the age of five and delving into contemporary classes at Nova Studio by age sixteen, she has honed her skills over the years. Additionally, her exploration of yoga over the past five years has added depth to her artistic journey.

Rebecca's involvement in various productions, such as acting in 'B'Sahhtek' and contributing to 'Mothers and Sons' in sound, reflects her multifaceted talent and dedication to the performing arts. With aspirations to teach theatre and dance while continuing her own performance career, Rebecca embodies the spirit of creativity and growth.

In a conversation with Rebecca, she discussed the process behind her project, highlighting the incorporation of elements from both dance and yoga. For Rebecca, dance has always been more than just a hobby: it is a medium for expressing emotions and navigating life's complexities. The natural synergy between dance and music inspired her to delve deeper into the music of movement, ultimately leading her to explore storytelling through dance.

Her dissertation explores the portrayal of the five earth elements—earth, fire, water, air and space—using contemporary dance techniques and Vinyasa Yoga. These elements symbolize the journey of self-discovery from birth to death, intertwining the body, mind and spirit through growth and transformation.

Initially challenged by the integration of these elements with her chosen dance styles and techniques, Rebecca persevered until she found a narrative for her abstract yet meaningful performance. Her dissertation aims to offer audiences a fresh perspective on the Earth's Elements, fostering a deeper appreciation of life's journey.

By merging yoga practices with dance, Rebecca's work not only breaks new ground in the field of performing arts but also opens doors to innovative approaches in movement and expression. With her performance at Spazju Kreattiv, Rebecca hopes to attract individuals who understand and appreciate the intersection of theatre, dance and yoga, further enriching the creative landscape of the performing arts community.



# FROM DEAD GECKOS TO POLITICAL SATIRE: MCAST'S 'ID-DAR TAL-FRIEFET' PLAY SHEDS LIGHT ON MALTA'S ENVIRONMENTAL CHALLENGES

by Coryse Borg, Content Writer



Towards the end of the first semester, the BA (Hons) in Performing Arts first-year students were set to produce Chekhov's 'The Cherry Orchard'. This play was chosen for a number of reasons, including the topical resonance between the tragic fate of the orchard in the Russian play and Malta's environmental predicament.

However, the resignation of two students from the course required a quick re-think, and that was when Dr Victor Jacono, Coordinator Performing Arts at MCAST, gave in to his students' pressure to write a play around the same topic.

And so the idea of 'Id-Dar tal-Friefet' was born.

At the beginning of the academic year, the students had discovered a dead gecko stuck to the wall of a class, in a pose that might have led one to believe it was still alive. This gecko had to feature in the play somehow.

"Another important source of inspiration was a brief holiday with my partner in Vienna last February, during which we visited Schmetterlinghaus, which literally translates into butterfly house, or *id-dar tal-friefet*, in Maltese. It is a zoological garden homing around 500 butterflies pertaining to some 40 tropical species," explains Dr Jacono. "Then there was (is) the pitiful state of our Maltese environment, stifled by air pollution, unbridled construction, the sore lack of green areas, the erosion of public spaces by unchecked commercial interests, and the weak political will to effectively and unambiguously address the whole situation."

The idea of a butterfly house, exhibiting elements of Maltese flora and fauna, to be constructed in the middle of the proposed garden project that was to - one day - take the place of Floriana's St Anne Street, captured the environmental predicament nicely, states Dr Jacono, who also wrote and directed the play.

For instance, take the following lines:

**MATT:** *Imagine the thousands of cruise liner tourists who would land to discover a wonderful display of the Maltese countryside.*

**LARA:** *Which you could previously only enjoy from the road, but now you could also appreciate exhibited in a glass house.*

The plot revolves around a consultation meeting called by Dr Matt Cauchi (Edmilson Zammit), an ambitious government backbencher working within the Ministry for the Environment.

The meeting would be hosted at the Curia by the secretary for the Environment Commission, Ms Joanna Spiteri (Krista Maria Bonello), aided by her housekeeper Berta Borg (Maya Karie Mifsud), and attended by opposition MP Dr Sonia Gerada (Rachelle Deguara), Floriana mayor and nature enthusiast Ġoġ Vassallo (Karl Azzopardi), and Dr Lara Zarb (Sara Zammit Randich), a sociologist and blogger from Floriana working at the President's office.

During the meeting, meant to discuss the ambitious St Anne Street project, Dr Cauchi comes out with the idea of installing a butterfly house bang in the middle of the garden, with an annexed restaurant and cafeteria, which he secretly intends to rent out to a business that is ready to sponsor his next electoral campaign.

As Dr Cauchi seeks the committee's approval, and the people around the table exchange barbs, we discover a secret affair between the two MPs, and a dead gecko on the wall disrupts the action to an escalating comical effect.

"Of course, characters and situations were all fictional," Dr Jacono says. "As expected of a satirical play, however, the script is dense with current socio-political references. Rather than send any messages, the play was meant to give the audience a moment of spirited reflection on the prevailing economic culture, which fails to see the value of a healthy quality of life, especially when this does not translate directly into some form of financial gain. The dismal state of the Maltese environment is one important victim of such a mindset, and of a political culture which places party and personal interests above the common good."

Apart from acting, students were responsible for production management (Faye Mifsud Midolo), stage management (Karl Azzopardi), assistant stage management (Sarah Zammit Randich), set and props (Edmilson Zammit), costumes and sound (Christie Falzon), lights (Massimo Magri), marketing (Krista Bonello), and front-of-house (Maya Karie Mifsud).

“Teamwork is key,” Dr Jacono stresses. “When it came to content, the production of a political satire helped the group appreciate the importance of contextualisation, critical thinking, and relevance in developing the artistic concept. Satire uses fiction to take a comical dig at reality, and the students were involved in ongoing discussions aimed at analysing and developing the script content and its theatrical expression. The process constituted an important learning curve for each student, and the fruit of that process was evident in their commitment, their appreciation of targets reached, and the positive response of their audience.”

During the performances of ‘Id-Dar tal-Friefet’ on the 21st and 22nd June 2024, a few audience members remarked how relieved they were to attend such a performance after what they had been exposed to during the past electoral campaign.

Satire has a way of engaging an audience to reflect on topical issues and release the tension that such issues tend to create within and among members of society. The applause which erupted time and again in the course of the action was a sign of catharsis.

At the end of the performance, many among the audience wanted to stay on and talk. Some audience members confessed, “We need more of this kind of theatre.”

“We often complain of how hectic life has become, how stressed we are, chasing after our personal and social needs and aspirations. Theatre can provide us with an opportunity to stop for a moment, to listen, to reflect, to release stress with a good laugh, a few tears sometimes, and to find solace in fictive scenes that resonate with our real-life experience,” Dr Jacono says. “Ultimately, whatever our audience took away from our play, we wished to give them such an opportunity, and in that I think the play was a success.”







A photograph of a male musician with a beard, wearing a white polo shirt and dark shorts, performing on stage. He is seated and playing a white electric guitar. A microphone is positioned in front of him. In the background, a drum set is visible, including a yellow bass drum and a pink bass guitar leaning against it. The stage is lit with blue and purple lights, and the background is dark with some star-like light spots.

## KAMPUSAJF: A MULTI-DISCIPLINARY ARTISTIC FEAST

**STANDFIRST:** *The Malta College of Arts, Science, and Technology in collaboration with APS Bank Malta, will be holding the second edition of the KampuSajf Festival from the 23<sup>rd</sup> to the 28<sup>th</sup> August 2024. Artistic director Christian Debono gives us an insight into the vision and objectives behind this year's event.*



The KampuSajf Festival was inspired by MCAST's desire to host an arts festival on campus which was open to the general public. Since its first edition, the festival has evolved into an alternative performing arts event with its own identity, providing a platform for artists to showcase work that might not find a platform elsewhere.

According to KampuSajf Artistic Director Christian Debono, the Maltese artistic community is brimming with emerging artists - and new artworks - who rarely get the opportunity to perform or re-imagine past work into something new.

"The festival fosters collaborations on existing artworks, challenging artists to reimagine their work specifically for KampuSajf. It brings an audience together to experience indigenous artistic work or that of artists residing in Malta, allowing artists to further explore their artistic mediums," Christian says.

"Many artworks created in Malta often remain unseen, with minimal audience exposure. By developing new projects rooted in these existing works, we give them new life and provide emerging artists with a new platform to showcase their artistic baggage."

This year, KampuSajf features a diverse mix of music, theatre, literature, performance, and animated film, ensuring there is something for everyone.

"We've commissioned new works specifically for the festival, including 'Id-Dizzjunarju tal-Mahbubin' by Martina Georgina, Klonn, and Hearts Beating in Time, inspired by 'Il-Marata-Suldat' from a Maltese online writing platform. In collaboration with Teatru Malta, we're showcasing their greatest musical hits, arranged by Albert Garzia and Justin Galea, with vocals by Charlotte Formosa and guest artists Claire Tonna and Lapes," Christian explains.

The festival will also celebrate the fifth anniversary of the musical album 'Karmagenn' with a theatre-like gig featuring live musicians and actors, in collaboration with Chewing Productions.

Like it did last year, KampuSajf will highlight works by Maltese animators and those residing in Malta, featuring contributions from MCAST ICA students. The festival will close with the Mariele Zammit Kwartett, exploring Maltese musical heritage in a jazz quartet format. Additionally, the festival is partnering with POPP to offer various stalls and DJ sets after each performance, ensuring continuous entertainment.

"My vision has been to celebrate our contemporary performing artists, both emerging and established, by providing them with a different festival where to showcase their work," states Christian.

KampuSajf will be held at two distinct locations: the amphitheatre in Mosta and the MCAST Campus in Paola.

"It is a no brainer that the amphitheatre in Mosta is one of the most beautiful venues in Malta, with a stunning natural backdrop that includes some of the island's most picturesque scenery, a rare sight to our island," Christian says. "Meanwhile, the MCAST Campus in Paola features a charming piazza with mature trees and a wonderful ambiance. The serene and inviting environment of this location was a pleasant surprise to me upon my first visit, and it greatly contributes to the festival's open and artistic experience."

More information on KampuSajf may be obtained from MCAST's website. KampuSajf is open to the general public. Tickets may be purchased from [shop.trackagescheme.com/event/kampusajf-2024/](http://shop.trackagescheme.com/event/kampusajf-2024/)

KampuSajf 2024 is being organised in collaboration with POPP and is supported by Heritage Malta. The festival is powered by APS Bank.

# FOSTERING INNOVATION AND SUSTAINABILITY IN MEDITERRANEAN AGRICULTURE

by Dr Francesca Busuttill, MED-WET Researcher,  
IAS - Centre for Agriculture, Aquatics and Animal  
Sciences



The Mediterranean region faces a significant water scarcity challenge. High tourist activities during the summer months, population growth, changing food consumption patterns and climate change all put a strain on the region's limited water reserves, ultimately threatening the vital agricultural sector. A 2020 report by the World Wildlife Fund highlights the critical water situation in the Mediterranean, stating that several areas already use more than 80% of their available freshwater resources.

To ensure a secure water future for the region's agriculture, more efficient and widely applicable irrigation technologies are urgently needed. The MED-WET project (short for improving Mediterranean irrigation and water supply for smallholder farmers by providing efficient, low-cost and nature-based technologies and practices) offers a promising solution. This collaborative effort brings together universities and research institutions across the Mediterranean with a common goal: to equip smallholder farmers with innovative and affordable tools to combat water scarcity.

During this project, three low-cost, nature-based solutions that enhance irrigation efficiency or increase freshwater availability by tapping into non-conventional water sources are being explored. The Self-regulating, Low Energy, Clay-based Irrigation technology, referred to as 'SLECI', is a self-regulating subsurface irrigation technique that uses the actual suction force of the surrounding soil for regulation of the system's water release via clay tubes. This technology is being tested across nine pilot sites in Gozo, Morocco and Portugal. Promising preliminary results from the Gozo sites



suggest significant water savings compared to conventional irrigation systems while maintaining crop yields. The second technology is a solar desalination greenhouse that is currently being constructed in Gozo, that aims to transform saline water, unsuitable for irrigation, into a usable freshwater source, expanding the available water pool for agriculture. Lastly, constructed wetlands in Egypt allow for wastewater reuse and its transformation into reclaimed irrigation water.

MCAST plays a crucial role as the partner leading communication and dissemination efforts for MED-WET. It serves as a vital bridge, ensuring that these innovative solutions reach stakeholders and farmers. Through targeted capacity building activities and comprehensive dissemination campaigns, MCAST is facilitating the transfer of this innovative research into practical applications for future implementation.

By harnessing innovative and sustainable irrigation technologies, effective communication strategies, and a focus on nature-based solutions, MED-WET paves the way for a more secure water future for the region's agriculture. This not only safeguards food production but also fosters a more resilient and environmentally conscious agricultural sector in the Mediterranean.

MED-WET is 100% funded by the Malta Council for Science and Technology through the PRIMA initiative of Member States, Associated Countries and Participating Countries. The PRIMA programme is supported by the European Union.



The Malta Council for  
**Science & Technology**



The PRIMA programme is supported and funded under Horizon 2020, the Framework European Union's Programme for Research and Innovation



# HAIR HARMONY

In a dazzling display of creativity and skill, 26 Level 4 MCAST hairdressing students participated in the highly anticipated Hair Showcase. This event, which spanned three days, was the culmination of their hard work and dedication throughout their course. Under the guidance of Ms. Roberta Curmi, the students embarked on a journey to explore and express cultural diversity through the art of hairstyling.

## A Fusion of Culture and Creativity

The photo shoot was part of the Cultural Expression Unit, a module that challenges students to delve into the significance of hairstyles in portraying various cultures, genres and styles. The theme for this year's showcase, titled "Hair Harmony," invited students to draw inspiration from the world of music. Each student created a unique look by blending elements from two different music genres, resulting in imaginative and visually stunning hairstyles that reflect the fusion of cultural expressions.

## From Concept to Creation

Students began the process by developing mood boards that combined their chosen music genres. This initial step allowed them to conceptualize and refine their ideas before bringing them to life. Over the course of three days, they meticulously crafted their looks from scratch, integrating clothing, make-up and accessories to complement their hairstyles. This hands-on experience not only honed their technical skills but also encouraged them to experiment and push the boundaries of their creativity.

## Looking Ahead

As the students move forward in their careers, the skills and experiences gained from the Cultural Expression unit and the Hair Harmony photo shoot will undoubtedly serve as a strong foundation. Their ability to creatively combine diverse influences will continue to set them apart as they navigate the ever-evolving landscape of hairdressing and fashion.





# THE PIANIST WHO PLAYS AMONG THE STARS

by Coryse Borg, Content Writer



*Dr Leonardo Barilaro is affectionately known as 'The Space Pianist' - a nickname conjured up by his beloved wife Ozlem. He discovered the piano at the age of six and astronomy at nine. At the age of twelve, via reading Isaac Asimov, playing Beethoven, and listening to Queen and Robert Miles, he had already decided that he would play his music beyond planet Earth. And his dream is becoming true.*

A senior lecturer in Aerospace Engineering, Dr Barilaro is a professional pianist and an aerospace engineer. He graduated from the Music Conservatory in Italy (he was mentored by Jordan Rudess, Dream Theatre's keyboardist around the same time), and with a PhD in Aerospace Engineering from the University of Padova.

It was then that he took part in his first space mission with the SCRAT project at the ESRANGE Space Centre in Sweden while creating his first space music soundtrack for the mission.

'Maleth' is the name of the programme that sent bioscience missions to Space. The title of the musical composition is derived from the ancient Phoenician term for Malta, which can be translated as 'safe harbour'.

"This connection reflects the desire to inspire people and spread awareness about humanity's new era as we embark on the path towards becoming a multi-planetary species," explains Dr Barilaro. "Just as Malta served as a safe haven for sailors in the past, Earth will become a secure harbour for astronauts exploring the vast expanse of Space."

The music, composed by him for piano and synthesizer, was stored on the mission computer and accessed from the mission control room in Malta. It was then broadcast from the International Space Station (ISS).

"The composition evokes a dreamlike atmosphere, as if J.S. Bach, Hans Zimmer, and Isaac Asimov were having a relaxed conversation under a summer night sky filled with stars," he says. "This marked my first real step as the 'Space Pianist' and the start of making my dream a reality."

According to Dr Barilaro, projects such as 'Music from Space' showcase the innovative concept of hybrid art, merging music composition with the scientific endeavour on board the ISS. This interdisciplinary approach creates a unique artistic expression that transcends cultural barriers.

"Music acts as a powerful language, reaching audiences beyond traditional science education. Streaming music from Space ignites public enthusiasm for space exploration in a way that is accessible and inspiring. This type of project offers a fresh perspective for both the artists creating the music and the global audience experiencing it. It pushes the boundaries of artistic expression and opens doors for new creative avenues in Space Art. This enhances public support for space exploration, which is crucial for tackling global challenges," he states.





All this came about after Professor Joseph Borg, the driving force behind the Maleth project, contacted Dr Barilaro about including a composition on board the International Space Station for Maleth 2.

Recognising the power of a combined artistic and scientific approach, Professor Borg proposed a broader collaboration for Maleth 3. This included not just Dr Barilaro's music, but also his participation representing MCAST in the scientific aspects of the mission.

"The Maleth missions are a powerful example of how science and art can come together. I share these experiences to encourage students to see the potential for innovation at the intersection of these seemingly disparate fields," Dr Barilaro explained.

Dr Barilaro's passion for blending science and music continues to fuel exciting projects, such as the ongoing Astrobeat mission that he is leading. This multifaceted initiative pushes the boundaries of both aerospace engineering and artistic expression.

Students were invited to submit compositions and the two winning pieces have been selected to be streamed from the ISS. This innovative approach generated significant public interest and outreach for the project.

"The message I hope to give is that creativity and innovation are fundamental to the future of both space art and aerospace engineering. By breaking down barriers and embracing new perspectives, students can be the driving force behind groundbreaking advancements in these exciting fields," he says.

The Department of Aviation at MCAST and the Aerospace, Mechanical and Electronic Department at South East Technological University (SETU, Ireland) are collaborating with the Centre of Studies and Activities for Space (CISAS) G. Colombo of the University of Padova and the Skyup Academy in Italy.

Moreover, MCAST started a prestigious collaboration with NYU Abu Dhabi (NYUAD), facilitated by H.E. the Ambassador of Malta in UAE, Madam Maria Camilleri Calleja. The collaboration with NYUAD was initiated and is supported by the Director of the Centre for Astrophysics and Space Science, Professor Andrea Macciò.

The MCAST team is composed of Mark Spiteri, Steve Buhagiar and Luke Falzon. The SETU team includes Dr Mark Wylie, co-author of the idea of using cold-welding adhesion in Space, and Theeba Shafeeg.

Dr Barilaro is also coordinating the Space Art project that will send new music compositions to the International Space Station.

Moreover, under the guidance of Professor Carlos Guedes, NYU Abu Dhabi is collaborating with him on the 'Music from Space' project, connected to the Astrobeat mission. This initiative aims to send new music composed by NYUAD students to the International Space Station. There will also be a suite composed by Professor Guedes that will boost further the value of the research in the field.

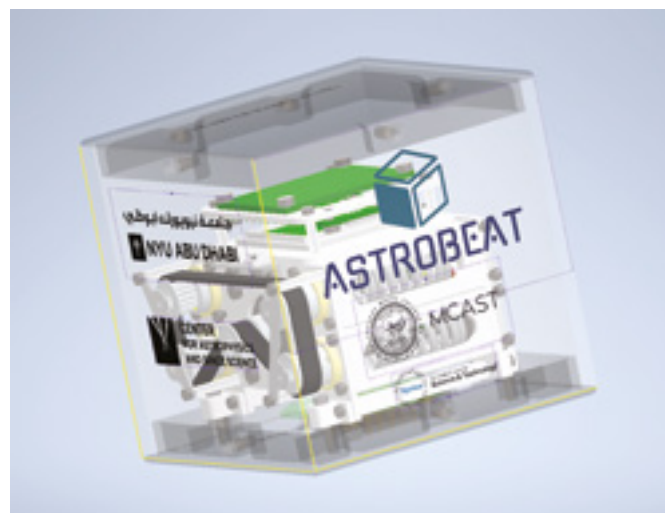
To further amplify the project's impact, Dr Barilaro has secured the participation of Grammy-nominated cellist and composer Tina Guo and world-renowned producer Steve Mazzaro. Guo and Mazzaro have been collaborating for several years with Hans Zimmer, the legendary composer who created iconic scores such as *Interstellar*, *Dune* and *Inception*.





This collaborative effort between scientists, musicians and students exemplifies the future of science and music, Dr Barilaro says.

“We’re not just sending music to Space, we are creating a powerful experience that transcends disciplines and inspires a global audience. Beyond Astrobeat, I have several other ideas for future projects that blend science and music. My goal is to continuously explore innovative ways to bridge these fields and ignite a passion for scientific exploration through artistic expression.”



## IN THEIR OWN WORDS...

A number of MCAST students presented their end-of-year art project at the Institute for the Creative Arts Festival. We asked four of them to tell us about their story and what their projects mean to them. The article was prepared by Coryse Borg.

This event was organised in collaboration with Spazju Kreattiv



**Greta Holland** has always had a passion for art, but it was rarely presented to her as a sustainable career. As she grew older, more opportunities emerged, and she realised that she could potentially pursue art as a career. She thinks that choosing an art course at MCAST cemented this in her mind.

My dissertation project, called 'Welcome to Santa Isadora', is an interactive animated sci-fi series about Artificial Intelligence in the context of an alien abduction.

The aim of the project is to make use of AI in my artistic process, as well as using it as a subject matter, without infringing on other artists' rights or diminishing my own contribution. The aim is to test whether AI and artists can coexist.

I was inspired by the AI boom of the early 2020s. I reached out to artists to get down to the root problem. AI can and should be used to make the artistic process more efficient, which is what I mean to demonstrate. However, the lack of consequences for those who use AI unethically prevents this discussion from being had.

I used Procreate for the art and frame by frame animation. I used Videoleap for editing and keyframe animation. Some images in the project are AI generated, and altered manually to fit the project, or used as references.

I published a questionnaire where artists could offer opinions and suggestions on ethical AI use. Their responses dictated how I made use of AI in my project. I used text-to-speech for some voice acting and recorded the rest myself. I composed the soundtrack and mixed audio in Garageband.

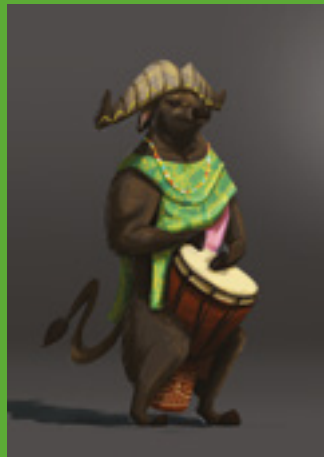
Many lecturers at MCAST have built their own artistic identities outside of the Institute, and my project impacts them too. My lecturers, but also my peers, have been very helpful and constructive around my project and were interested in the concept. My supervisor showed genuine interest in my project, which helped a lot in its development.

The biggest challenge was making sure the project remained ethical. I researched the ethical policies of all AI software I used, and researched every name and location mentioned in my project to make sure they were all fictional and could not be tied to real events, considering the sensitive nature of my project.

I feel proud because my hard work paid off. I am glad to see that the hours I put into my project, both in research and production, have been acknowledged in this way.

I hope the audience will find the narrative engaging and interesting. I wish to encourage discussion around AI, what contributes to its negative perception, and what can be done about it.





**Nicholas Falzon** says that most likely it was in kindergarten when he picked up art because his best friend had inspired him to draw. However he really decided that art was the goal when he was nine: the joy he felt seeing others enjoy his drawings was an entirely new feeling of euphoria.

My project tackles representation of cultures around the world. Often cultures are misrepresented due to stereotypes, so I wanted to combat that with heavy research-based characters.

The project itself is a set of anthropomorphic characters wearing paraphernalia from the animal's local region. Each character has their own personality based on how that region symbolises the animal and what traits might be assigned to it.

My main inspiration was animals. I have always been fascinated with how they interact with their environment. Through watching several documentaries, I discovered how different cultures mix these animals into their traditions and way of life.

The project was the perfect opportunity to combine these beautiful elements and incorporate my own style and studies to make a line-up that hopefully reflects the beauty. My work is also heavily inspired by a Disney artist/ animator by the name of Aaron Blaise.

My process consisted of a heavy research session, getting general ideas that are then narrowed down into a focused section. Once I selected an option, I researched it further. I then ran a quick anatomy session, especially with animals, to get familiar with the proportions and understand how they move and pose.

Next was a lot of sketching, from thumbnails to more polished ones, some focusing on pose, some on design, many sketches. Usually I operate digitally, however if I feel quite stiff, I transition to pen and paper. After I choose the best and polish them further, I start the digital painting and achieve the final version through several layers and blending modes. All of this is done while looking back at the original references. My software of choice is Clip Studio Paint.

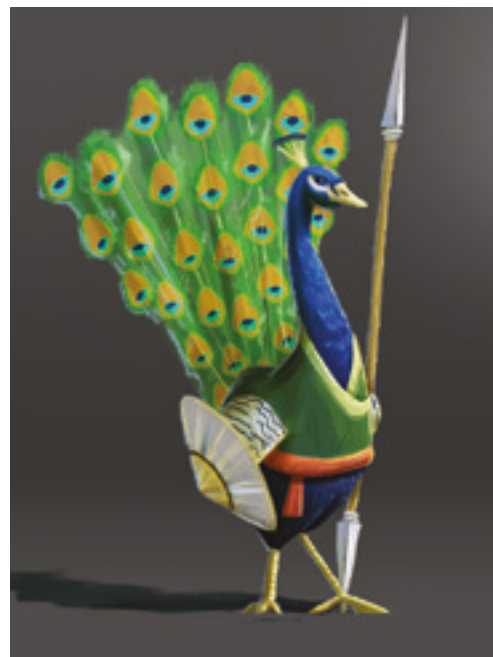
A major issue encountered was gathering feedback, as some cultures do not wish to be surveyed. I respected their wishes, but this delayed my work significantly. However, through perseverance and online forums, I was

able to find other people who wished to aid me with my studies and were able to give me the feedback I needed.

When I first started at MCAST, I felt like I was lacking talent in comparison to others, however, I still fought my way through. The lecturers at MCAST have always felt like friends to me: they supported me through every task and guided me through difficult times too. Ms Audrienne Degiorgio in particular has helped me develop my style and helped my artistic talent improve significantly. Ms Claudia Chircop has helped me create these characters as my tutor throughout my whole dissertation.

I am very excited to have my work presented at the Festival. I am very proud of it and cannot wait to see how the public reacts to my work and shares my passion. I am honoured to be among several students and talented artists who will also be there.

I am hoping that my work will inspire the audience to learn more about the cultures that exist, and hopefully research more when depicting these cultures so as to reduce the amount of false information being spread around the world.







**Cheyenne Pace** always liked art and technology, but she was never exposed to how she could mix both topics together. During her time at MCAST, she was introduced to the topic of User Experience (UX) design, where she had the opportunity to start designing digitally.

Through digital design, I got the opportunity to mix the computing world with the art world. I grew to like User Experience and User Interface (UX/UI) design after being exposed to web design and development.

I remember telling my friend that I loved the design aspect of the website and had great ideas for it, but I was very weak at coding. After taking another course focusing on the design aspect of a website, I realised that this was what I wanted to do in my life.

My passion for UX/UI design started briefly during a topic four years ago at MCAST, but it truly blossomed two years ago when I landed a job as a UX/UI intern with a gaming company.

The aim of my thesis is to discover the most effective methods for presenting an e-commerce website based on user preferences. Through thorough research and user surveys, I intend to develop a comprehensive website template with all necessary components.

This template will offer flexibility for users to customise elements based on their preferences and brand needs. Users will also receive clear guidance on selecting and implementing components effectively.

My goal is to present each component of the project as individual blocks. When I refer to components, I mean the elements necessary for constructing a website, such as the header, footer, product cards, banners, and so on. With these components, users will have the ability to gradually construct their website, block by block, simply by dragging and dropping.

The components in Figma will be both responsive and functional, inheriting styles from the design system. Users can then utilise the design system to adjust colours and fonts as needed.

For the exhibition, I plan to bring the components to life by printing them on wooden blocks and allowing users to physically design the website in front of them instead of on a computer screen. The blocks will include a small description at the back, guiding users as much as possible, describing the component and how it should be used.

I plan to extend the project to inexperienced web users, including children, and start teaching them how web design works using blocks. Similar to Lego blocks, these wooden printed component blocks could serve as a means to engage individuals with little to no knowledge of web design, providing them with room for experimentation.

The inspiration behind my exhibition piece began with my overthinking about how to showcase my work. I did not want to showcase my work solely on a screen. I really wanted my project to stand out. That is when I started thinking of ways my project could visually look better while still being engaging. During my one-on-one meetings with my tutor, I kept describing my project as 'building blocks'.

After a quick discussion with one of my workmates, where I explained the project in the same way I had to my tutor, he started laughing. Seeing me completely blank and anxious, he told me, "Stop, and think! The answer is in front of you." As soon as he said those words, he helped me realise the purpose of my project.

I want to give the viewers the opportunity to design a website based on what they think is right while having a good time doing so. Web design does not always have to be boring and technical; it can be fun, creative, and insightful.

With this project, I hope to educate more viewers and take the first step in guiding them towards UX/UI design. If there are children or teenagers interacting with my project, I hope they will say, "This is what I want to be when I grow up," or, "This is what I want to do."

# "GO BACK TO YOUR COUNTRY"

EXPLORING CONFLICT-AFFECTED  
LIVES VIA COMICS JOURNALISM.

By Josmar Darmanin Ba (Hons) GVD Lv.6.1



*Josmar Darmanin has been drawing for as long as he can remember; he still has his scribbles and sketches from when he was little. He says the catalyst for his wanting to pursue a career in arts started in secondary school at SMC Verdala. He credits his mentor, friend and 'Comic Club' President, Mr Dean Fenech, for sparking his interest in comics and supporting him through most of his teenage years while he was building himself up as an artist.*

It was an awkward journey figuring out what I wanted to do professionally, especially with the current state of art-related work in the country, but thanks to Dean and other role models who I met along the way, I am quite satisfied with the path I ended up pursuing, that of being a full-time art teacher.

The project's scope is twofold: artistic and informative. The dissertation led me to my project after researching extensively and developing both visual and narrative techniques applicable for stories of this calibre, these stories being war stories or sensitive topics in general. These techniques were applied to the comic medium to highlight its versatility and potential of being a platform for such stories.

Moreover, the project was also a journalistic undertaking, as it saw me having to interview and form emotional connections with multiple participants and gain enough of their trust to uncover their past and experiences in war-torn countries. The final goal was to create an impactful piece of literature that can help paint a clearer picture of these individuals' communities and countries by applying the researched techniques to the stories obtained.

The project started out as simply me having a personal interest in history. I went in with an anti-war and anti-patriotism mentality, thinking I was going to be the next 'Joe Sacco' (who highly influenced my work) and expose the reality of war to the world.

As I kept uncovering harsh truths, my passion to share them with the world grew, and so I committed to the task. I made it my goal to do justice by these people and to potentially inspire others to speak up or inspire like-minded artists/creatives to aid those without a voice.

Throughout the interviews, I always kept a sketchbook/notebook on hand for quick note-taking and sketching of some quick character concepts. Meanwhile, interviews were always recorded, transcribed, then rigorously researched. When a solid foundation was created, I would first lay out any major events in the participants' life on a timeline and turn it into a novel format, from which a comic appropriate script could be extracted.

From the said script, I would then create a set of storyboards of what I envisioned the final pages to look like, more or less. Then, with all the necessary components in order, everything would go digital. I would use my preferred illustration software, ClipStudio Paint, and turn my sketches, storyboards and dialogue digital.

I credit MCAST for allowing me to build a positive relationship with my lecturers, most of whom I have come to consider as close friends nowadays. I am also lucky to have had the tutor that I did for this project, who I knew from the day I set foot at MCAST. These kind of relationships really helped me in terms of trusting their input and being comfortable enough to express myself without feeling judged or awkward.

A major part of my dissertation focused on 'the importance of representation'. By no means am I qualified to represent the communities mentioned in the project, but by *interpreting* the stories of those within these communities, others might feel the comfort they have been seeking or hear the voice they have been needing to hear.

My wish is for my project to reach individuals who have gone through similar experiences or others that know people who have.

Moreover, I feel that the artistic community could highly benefit from the techniques analysed throughout my study in order to aid in the amplification of silenced voices.

But above all, projects like mine should serve as a learning opportunity to practise basic human decency, an eye opener for those who tend to gloss over or berate those around us, immigrants or not. Maybe, just maybe, next time we will think twice before shouting, "Go back to your country."

# CREATIVE SOLUTIONS FOR TOMORROW'S URBAN MOBILITY: HIGHLIGHTS FROM THE EXCEL WINTER SCHOOL 2024

## Authors:

**Gonca Kara, Pelin Uner,  
Maria Ragia, Rozela Franco**  
Applied Research & Innovation Centre

The EXCEL Winter School, taking place in the heart of Winter, carved out an enriching educational experience, immersing participating students in the realm of sustainable urban mobility. By empowering students to influence the future of transportation, it served as a catalyst for bridging knowledge gaps and fostering transformative experiences. This EXCEL Winter School, a groundbreaking initiative funded through the European Institute of Innovation and Technology (EIT) Urban Mobility, took place in Gozo, Malta, from 12th to 16th February 2024. This unique program, organized in collaboration with the Malta College of Arts, Science, and Technology (MCAST), Cleantech Bulgaria (CTBG), and Project Aegle Foundation (PAF), aimed to revolutionize education in sustainable urban mobility. The following stakeholders also made substantial and valuable contributions to the Winter School: Gozo Regional Development Authority (GRDA), Ministry for Gozo and Planning, Transport Malta (TM), Malta Public Transport (MPT), EIT Urban Mobility Master School, EIT Community RIS Hub Malta, Greenroads, Friends of the Earth Malta, Sigma Air Mobility, Gozo Business Chamber, Gozo Tourism Association, Gozo Innovation Hub, SUN x Malta, Super Charger Ventures, MandE Partners, Bajada Lyons Group, Lion Partners, Global Green Events.



*A group photograph from the final day pitching event of the EXCEL Winter School*

This year's program, bustling with energy and creativity, was a testament to the burgeoning talent and collaborative spirit among students who are passionate about transforming urban mobility. Through the research team from the Applied Research and Innovation Centre (ARIC), MCAST played a pivotal role in the EXCEL Winter School: Pelin Uner served as the project lead, Gonca Kara and Maria Ragia as program coordinators, and Rozela Franco as the communications and marketing personnel. MCAST's involvement in the program not only provided a platform for students to apply theoretical knowledge in real-world scenarios but also enhanced its commitment to promoting sustainable solutions in urban mobility. Through fostering collaboration among students,

industry mentors, and the community, MCAST bolstered its connections with both local and international stakeholders, showcasing its ability to make substantial contributions towards Malta's sustainability objectives.

Throughout the week 44 students from a number of European countries learned to understand innovation and entrepreneurship in urban mobility and develop solutions with experts and stakeholders. A unique facet of the program was its commitment to integrating real-world experiences into learning. Teams embarked on a citizen engagement initiative, delving into the urban mobility habits of local citizens through street interviews. This hands-on approach not only



*'Sustainable Innovators' emerged as champions, proposing hydrogen-powered ferries, marking a significant step towards sustainable maritime transport for Malta and Gozo*

enriched the students' understanding of urban mobility challenges but also ensured their solutions were grounded in real-world applicability. The final event, the highlight of this Winter school, was a day-long crescendo of hard work and dedication showcasing nine teams as they presented their projects, refined through hours of mentorship and rehearsal. The morning buzzed with anticipation as teams engaged in final rehearsals and mentor check-ins. A jury panel, consisting of various stakeholders and appointed to select the four best solutions, commended the teams' diligence and the feasibility of the solutions which the students managed to develop in under a week.

The challenges tackled by the students centered on shifting away from a car-centric society towards sustainable transportation alternatives. Given Malta & Gozo's high private vehicle ratio, the solutions sought to address the unique needs of Gozo, especially in light of its popularity among visitors. Renewable energy for ferries, alternative maritime connectivity, and efficient use of transportation were at the forefront of the discussions. Additionally, during the Winter School, students actively participated in a Communication Challenge, which was awarded to Tsvetosvyata Petrova and Nur Emilia Huda Binti Mohd Yunos for their exceptional ability to convey complex ideas effectively and engagingly.

The EXCEL Winter School 2024 was not just an academic program but a beacon of creativity, innovation, collaboration, and sustainable development. It offered a glimpse into the future of urban mobility, powered by the creativity and dedication of its participants. Looking forward, the solutions and ideas cultivated throughout the Winter School hold the potential to ignite substantial transformations, enhancing the sustainability, efficiency, and inclusivity of urban environments.



GOVERNMENT  
OF MALTA



FONDI.eu



*'SBH Mobility' group placed second with their vision for 100% electric ferries, exemplified by the Candela P-12, aiming to enhance Gozo's connectivity*

# INNOVATIVE TOOLS AND MENTORSHIP: MCAST REVOLUTIONIZES LEARNING WITH ESF 02.058

by Coryse Borg, Content Writer

***MCAST is working to create a more supportive learning environment that helps students feel comfortable and engaged. One of the ways it is doing so is through the ESF 02.058 project Adding Value: Nurturing Learning Journeys in IVET at MCAST, through which several innovative tools are now available within the College. Dr Tatjana Chircop, MCAST Deputy Principal Research and Innovation, gives more details.***

Throughout its history, MCAST has always taken measures on various levels to support students during their educational journey and to help them achieve their full potential.

The ESF 02.058 project, which spanned between 2017 and 2023, enabled the College to develop innovative tools and services, with the aim of providing an engaging and individualised opportunity for students after their secondary schooling.

Through substantial research, challenges and barriers which students encountered during their education were identified, and state-of-the-art tools were developed to mitigate these challenges and retain students in education.

*In a world where instant gratification is more and more at the forefront making medium and long term goals (including achieving a qualification) quite challenging, one of the most prominent challenges is the need for persistence and patience to achieve a goal.*

Another challenge is coming to terms with past and present experiences which might not be conducive to learning.

*From the research carried out within this project, the majority of students who discontinue their studies are in employment. For a number of these, paid employment is a necessity, while for others, the feeling of independence, having an income and moving away from education after compulsory schooling, is more gratifying than continuing their studies at that point in time.*

Through this project, the College was able to develop tools and a number of innovative measures that address student engagement, and subsequently student retention, for students following courses up to MQF Level 3.

*Within the project, there were a number of components including research, mentoring, gamification of curriculum and bite-sized training programmes. The research informed on the actual challenges students themselves find as well as what measures could support students better, such as providing online custom-made platforms which could be used for teaching and learning making learning more enjoyable and reflecting more their everyday life, using technology on the go.*

A number of support systems and innovative online tools included three particular platforms which were developed for more effective learning so that students are given the opportunity to fully engage in their studies and enjoy the learning process.



The Operational Tools and Information System (OTIS) platform includes features such as a Chat Communicator and Smart Board. Students can also learn particular topics through the use of Augmented Reality and Virtual Reality.

The Gamification Learning Management System platform provides the opportunity for students to learn through games for key skills such as Maltese, English, Maths and Science.

Finally, through the Trail Map platform, the College is in a better position to identify students who are more likely to be at risk of dropping out and therefore be able to support them at an early stage.

The ESF 02.058 project created the opportunity for students to engage in learning through an innovative model and at their own pace. This was the Skills Kits programme which consisted of short study units at a basic level.

MCAST has also introduced and sustained a new innovative role, that of student mentors, whereby multidisciplinary mentoring teams supported students throughout the project, ensuring the well-being of each individual student and empowering students to successfully navigate their learning journey.



*Feedback from students was very positive, with the student mentors being considered as an important reference point for students. Now that MCAST is sustaining this service beyond the project, the College looks forward to supporting future students in the same way.*

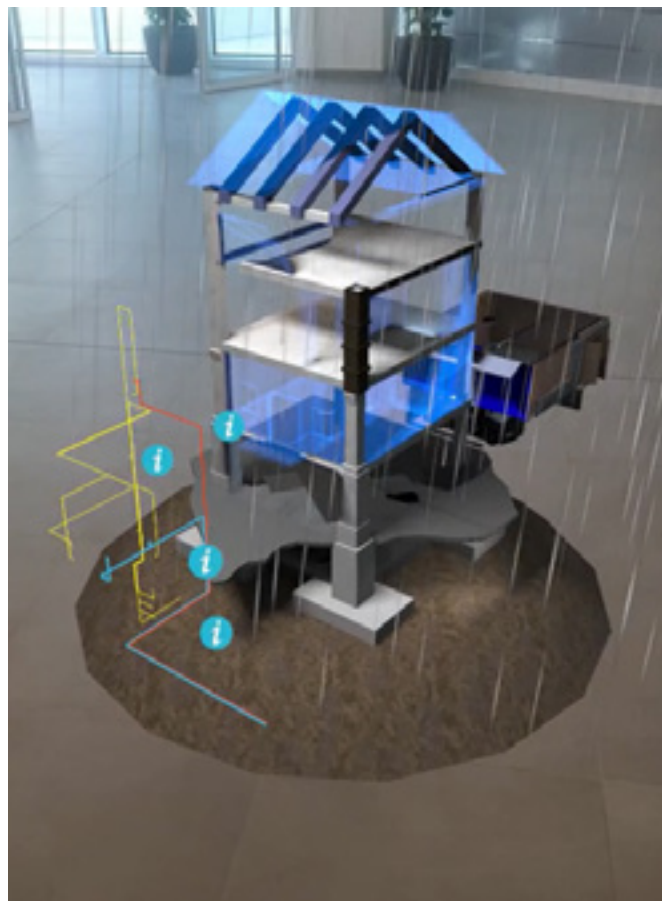
MCAST's commitment to addressing student challenges through innovative solutions confirms its dedication to student success. The ESF 02.058 project has not only provided immediate benefits but also set a foundation for a supportive and adaptive educational ecosystem that will continue to evolve and support students in the years to come.



MCAST



Co-funded by  
the European Union



# MCAST INVESTS IN NEW CUTTING-EDGE CYBER-PHYSICAL LAB

by Ryan Vella, Senior Communications Officer, MCAST  
Communications Office



MCAST unveiled its latest investment in education and innovation with the acquisition of a state-of-the-art Cyber-Physical Lab.

The lab, situated at the Institute of Engineering and Transport (IET)'s Department of Mechanical Engineering, is set to enhance the educational experience of students and researchers in the field of Manufacturing Engineering.

The lab is equipped with the latest technologies, including advanced sensors, robotics, automation systems, and simulation tools, enabling students to engage in hands-on learning and practical experimentation.



This novel resource at the College will enable students to work on projects infused with real-world applications, preparing them for Engineering careers in industries such as automotive, aviation, building and construction, and more.

MCAST Director at the Institute of Engineering and Transport (IET) Dr Ing Stephen Sammut explained, "The new Cyber-Physical Lab is a game-changer for our Institute. It aligns perfectly with our mission to equip students with the skills and knowledge needed to excel both professionally and academically. We are confident that this lab will also contribute to groundbreaking research in the Engineering field."

The Cyber-Physical Lab will also provide valuable research opportunities for faculty members and students alike, promoting innovation and driving advancements in the fields of engineering and transportation.

Ing Anthony Bartolo, Deputy Director at the Institute of Engineering and Transport (IET), stated, "MCAST invites students, faculty members, industry partners, and the broader community to explore and utilize this cutting-edge facility, fostering a collaborative and innovative environment for all stakeholders. The College remains committed to nurturing talent, driving innovation, and preparing students for a bright and technologically advanced future."



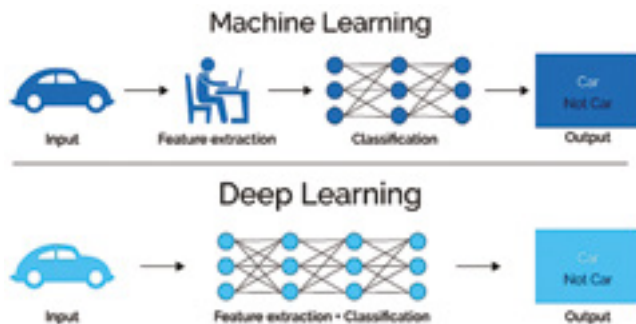


# **SHEDDING LIGHT ON THE BLACK BOX: NEURO-SYMBOLIC AI FOR EXPLAINABLE AI MODELS**

by Dr Mario Mallia-Milanes, MCAST Senior Lecturer

The impressive capabilities of artificial intelligence (AI) are undeniable. From facial recognition to self-driving cars, AI is rapidly transforming our world. However, a major hurdle in widespread adoption remains – the lack of explainability in many AI models, particularly deep learning models and applications. (Gustavsen & Portillo, 2014)

Here is where Neuro-Symbolic AI (NSAI) emerges as a promising solution. NSAI bridges the divide between two fundamental approaches to AI (Dingli & Farrugia, 2023):



- 1. Symbolic AI:** This approach relies on symbolic representations of knowledge, such as logic rules and knowledge graphs. Symbolic AI models are inherently interpretable, as the reasoning steps are explicit and humanly understandable. However, they can struggle with complex data patterns.
- 2. Deep Learning:** Deep learning models, a type of artificial neural network, excel at recognizing patterns in vast amounts of data. This allows them to achieve high accuracy in tasks like image recognition and natural language processing. However, the internal workings of deep learning models are often opaque, making it difficult to understand how they arrive at their decisions.

NSAI capitalises on the strengths of both paradigms. It integrates symbolic representations of knowledge with the powerful learning capabilities of deep learning models. This allows NSAI models to not only learn effectively from data but also offer explanations for their predictions in a way humans can understand.

There are several ways NSAI achieves explainability:

- **Injecting Domain Knowledge:** NSAI models can incorporate pre-existing domain knowledge, expressed as logical rules or constraints. This knowledge acts as a guide for the learning process, shaping the model's behaviour and making its reasoning more transparent.
- **Learning Symbolic Representations:** NSAI models can learn symbolic representations alongside numerical representations during training. These symbolic representations, which might be concepts or relationships, provide insights into what the model has learned from the data.
- **Building Explainable Neural Networks:** NSAI research explores building neural networks with an inherently interpretable structure. This allows for explanations like highlighting the specific features or data points that most influenced the model's decision.

The benefits of explainable AI models go beyond mere curiosity. Here's how NSAI can enhance the adoption and responsible use of AI:

- **Increased Trust and Transparency:** NSAI models allow users to understand the rationale behind AI decisions. This fosters trust in the system and facilitates human oversight, crucial for applications in healthcare or finance.
- **Improved Debugging and Error Detection:** By explaining their reasoning, NSAI models can help identify potential biases or errors within the model itself. This allows developers to troubleshoot issues and improve the model's performance.
- **Better Human-AI Collaboration:** Explainable models enable humans to understand the AI's capabilities and limitations. This paves the way for effective collaboration between humans and AI, where each leverages its strengths for superior results. (Dingli & Farrugia, 2023)

NSAI is still an evolving field, but its potential to bring explainability to AI is significant. As research progresses, we can expect to see NSAI models applied in various domains such as:

- **Medical Diagnosis:** Explainable AI models can help doctors understand the AI's reasoning behind a diagnosis, allowing them to make informed decisions while leveraging AI's analytical power.
- **Autonomous Vehicles:** In self-driving cars, NSAI models could explain the vehicle's decision-making process during critical manoeuvres, building trust and ensuring safety.
- **Financial Risk Assessment:** Explainable AI could enhance transparency in loan approvals or risk assessments, allowing for fairer and more accountable decision-making.
- **Personalised Learning:** NSAI models can be used to personalize learning experiences for each student. By understanding a student's strengths, weaknesses, and learning style, the model can tailor content and recommend resources that cater to their individual needs. Explainable AI can reveal the rationale behind these recommendations, allowing educators and students to understand why specific learning paths are suggested.
- **Formative Assessment and Feedback:** NSAI models can analyse student performance data and provide detailed explanations for strengths and weaknesses identified. This goes beyond simply giving a grade and allows for targeted feedback that addresses specific areas where a student might need improvement.
- **Explainable AI Tutors:** Educational chatbots powered by NSAI can act as intelligent tutors, engaging students in interactive learning sessions. By explaining their reasoning and offering justifications for answers, these chatbots can foster deeper understanding and critical thinking skills.
- **Demystifying Complex Topics:** NSAI can be used to create interactive educational tools that break down complex concepts into more manageable pieces. These tools can leverage symbolic representations like concept maps and combine them with AI's ability to analyse vast amounts of data to create engaging and informative learning experiences.

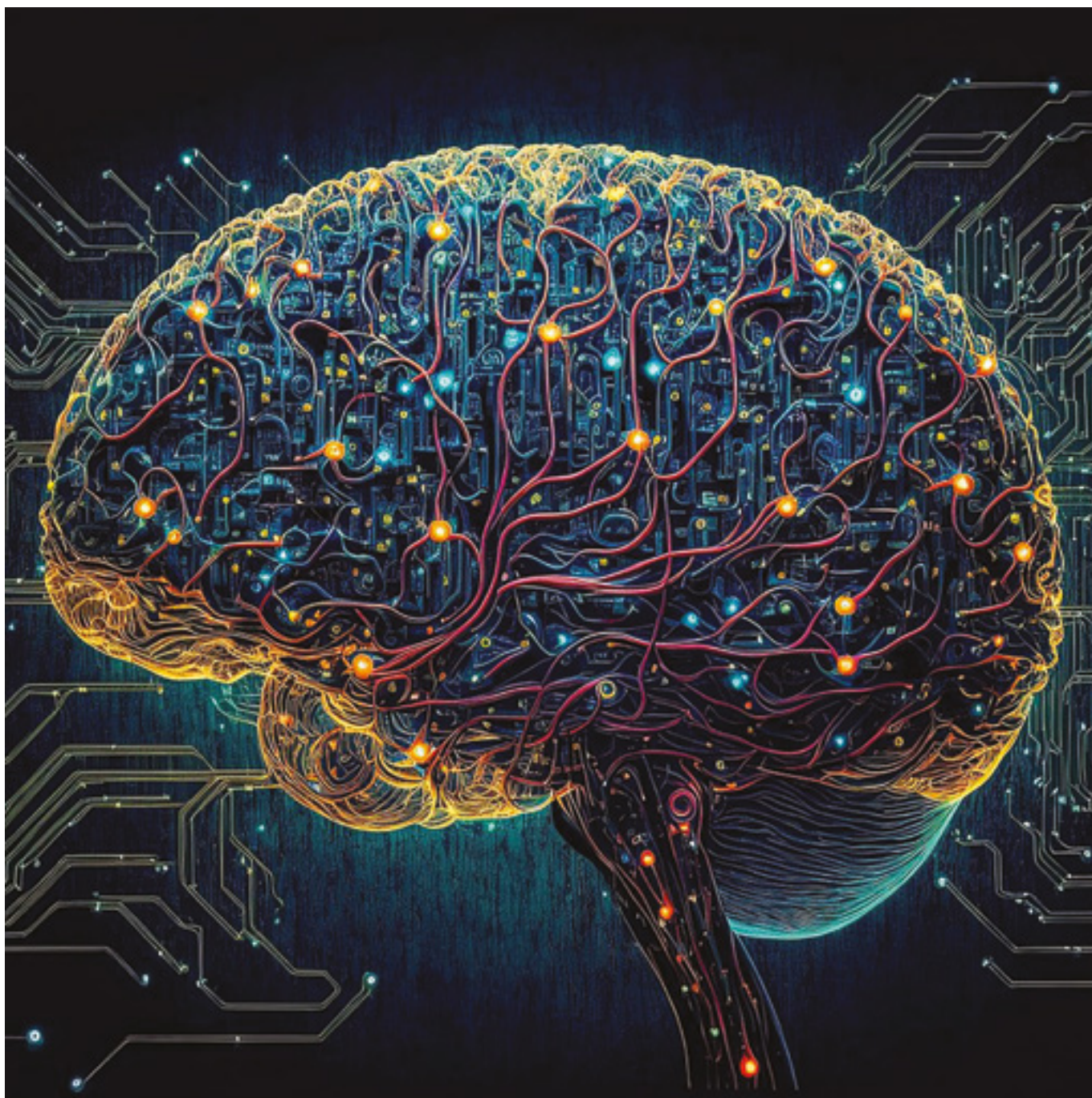
- **Promoting Algorithmic Literacy:** NSAI allows students to learn about AI by interacting with models that explain their own decision-making processes. This fosters a deeper understanding of how AI works, preparing students for a future where interacting with AI systems is commonplace. (Rawat, 2023)

(Himabindu, et al., 2023)

The path towards a future where AI operates with human-like explainability is paved with Neuro-Symbolic AI. By harnessing the power of both symbolic reasoning and deep learning, NSAI offers the potential to unlock the full potential of AI while building trust and ensuring responsible development.

By incorporating explainability through NSAI, educators can unlock a new level of effectiveness in the classroom. Students can benefit from a more personalized and interactive learning experience, fostering stronger comprehension and critical thinking skills. The future of education holds immense potential for AI, and NSAI paves the way for a future where AI empowers educators and unlocks personalized learning experiences for all students.





# CREATIVITY IN SPORTS AT MCAST

by Javier Caruana, MCAST student currently reading for a BA (Hons) in Journalism at the Institute for the Creative Arts





For this issue, we sat down with senior lecturer Dr Dorianne Caruana Bonnici with whom we talked about the realm of sports education at MCAST. Our discussion highlights the transformative impact of MCAST's Sports courses on supporting creativity among students. From technical programmes to hands-on experiences, Dr Caruana Bonnici shared with us how MCAST's dynamic sporting curriculum empowers students to think outside the box and get creative in the sporting sector.

Sports education at MCAST has undergone a significant evolution since its start approximately 18 years ago. From early beginnings with Level 3 BTEC courses, the programme has flourished into a multifaceted curriculum offering Levels 2, 3, 4, 5 and 6 and even a part-time Level 7 in Sports and Exercise Science. This growth not only reflects the increasing demand for skilled professionals in the sports and fitness industry but also highlights MCAST's commitment to providing diverse opportunities for its students.

Dr Caruana Bonnici stated that the introduction of Levels 2, 3 and 4 courses marked a significant milestone, leading to a large increase in student enrolment. With over 300 students enrolled, today MCAST boasts a diverse pool of graduates who have successfully transitioned into various roles within the sports and fitness industry.

Central to the success of MCAST's Sports courses is, as stated by Dr Caruana Bonnici herself, its dedicated team of lecturers and professionals. Drawing from expertise in sports science, research, nutrition, psychology and management, the Institute ensures a broad learning experience for its students. MCAST's flexible timetable accommodates the demanding training schedules of aspiring athletes, fostering a conducive environment for both academic and athletic interests.

Dr Caruana Bonnici insisted that one of the important traits of MCAST's sports programmes is their emphasis on fostering creativity and innovation among students. Many graduates and students have leveraged their education to spearhead innovative ventures in the sports sector, ranging from fitness businesses to specialized coaching services.

By providing hands-on activities and encouraging an entrepreneurial spirit, MCAST empowers students to carve out their own roles in the dynamic landscape of sports and fitness.

Looking towards the future, Dr Caruana Bonnici mentioned that MCAST is committed to maintaining its leadership in fostering creativity in sports education. By staying up to date with the trends of the sporting industry, continuously adapting its curriculum, and forming strategic partnerships with key stakeholders, MCAST ensures that its graduates remain at the forefront of the ever-evolving sports industry. Through these efforts, MCAST will continue to inspire and empower the next generation of sports professionals to thrive in an increasingly competitive global market.

In conclusion, our interview with Dr Dorianne Caruana Bonnici emphasised the pivotal role MCAST has in shaping the future of sports education. With its diverse curriculum and dedicated faculty, MCAST is the leader in terms of innovation, allowing students to unleash their creativity in the sporting sector. As MCAST continues to evolve and adapt, it remains committed to fostering a culture of originality, ensuring that its graduates excel in the dynamic and competitive realm of sports and fitness.



# REVOLUTIONIZING THE TIDE: DISRUPTIVE TECHNOLOGIES ADOPTION THROUGH DIGITAL TWINNING AND VIRTUAL REALITY DEVELOPMENT FOR ADVANCED WATER SKILLING

by Daren Scerri (IICT) and Edwin Zammit (IAS)



## The WATERLINE project

Inadequate capacity and social issues hinder innovation in Higher Education Institutions (HEIs). The COVID-19 crisis spurred digitalization in education, prompting innovative collaborative approaches for sustainable solutions. The WATERLINE project aims to build a European HEI digital water campus that is designed to operate four Extended Reality Water Emulative Centres in selected HEIs across Europe. Furthermore, WATERLINE aims to bolster a Digital Water HEI Alliance by aligning with the vision of the European Education Area, which asserts that cross-border learning mobility and cooperation significantly enhances the quality of education and training institutions.

The WATERLINE project receives funding from the European Union's Horizon Europe HORIZON-WIDERA-2021-ACCESS-05 under grant agreement No 101071306. With a total budget of approximately Eur 1.75m and a duration spanning three years, the project boasts a consortium of 15 partners hailing from 12 European and non-European countries. Comprising Higher Education Institutions, Businesses, and Policymakers, the partnership is spearheaded by MCAST. Under the leadership of principal investigator Edwin Zammit, the consortium operates with a multidisciplinary team from MCAST, including Lorna Bonnici West, Alex Rizzo, Daren Scerri, Gerard Said Pullicino, Edal Cassar, Gonca Kara, Robert Farrugia, Emman Nocilla, Geoffrey Attard and Lisa Theuma, and aims to address water-related challenges through innovative approaches and cross-institution collaboration.

## Impacts

The impacts brought about by the project are both societal and economic since it enhances digital water skilling through extended reality tools. Short-term goals include skill development among key personnel, while medium-term objectives focus on raising awareness through information sessions to quadruple helix stakeholders. Long-term impacts involve influencing national policies and integrating project knowledge into regional policymaking. The project also addresses barriers such as regulatory challenges and limited research capacity, aiming to boost funding for technology development. Notably, it addresses the significant impact of the COVID-19 crisis on distance learning by providing augmented and virtual learning options, aiming to revolutionize practical skilling in water-related education.

## Three-tier Extended Reality Learning Environments

WATERLINE will embed novel technologies in the Learning Environments (LEs) to enable seamless knowledge transfer and skills training in Digital Water. This shall be achieved through the development of the extended reality tools, skills and solutions in order to support the transformation of the project's three-tier extended reality LEs. The first, the Emulated Learning Environment (ELE), is a physical emulation or simulation environment that replicates the real environment in a controlled and scaled-down fashion. This emulation/simulation setup is workshop or laboratory-based that is already present at the HEI, in order to carry out the more complex skilling exercises in a controlled and guided fashion. The second, the Assisted Reality Learning Environment (ARLE), is complementary and in enhancement to the ELE, and would entail extended learning within a physical training environment that is as close as possible to the real water environment to provide practical skilling that is technology-enabled. The emulation laboratory or a physical pilot or test site will be commissioned, and the necessary assisted learning technologies introduced. The third is the Virtual Reality Learning Environment (ViLE). The ELE will be extended into a full virtual reality experience that learners can access remotely. This ViLE will be ideal for entirely remote learners and also for the reskilling of learners at future points in time.

## MCAST's Water Distribution Network Rig and Advanced VR Application

The Malta College of Arts, Science and Technology (MCAST) Institute of Information and Communication Technology (IICT) is leading the ground-breaking development of the MCAST water distribution network test rig digital twinning VR project. This initiative involves creating an immersive virtual reality experience for water distribution network modelling, simulation, and training, transforming how we interact with and learn about these critical systems. A digital twin is a physical or computer-based system used to replicate and model the behaviour of a real-world water distribution network. These rigs are commonly used in engineering, research, and educational settings for various purposes, including testing, experimentation, and analysis of water distribution systems.

The WATER Research and Training Centre at MCAST hosts a physical network rig (emulated Learning Environment) that

replicates the elements of a real water distribution network, such as pipes, pumps, valves, tanks, and sensors. These physical components can be connected and manipulated to simulate different scenarios and test the performance of the network.

The ViLE aims to provide an immersive and educational experience focused on real-life scenarios within water distribution, allowing students and industry stakeholders to adjust and assess different variables in real time. The application will present different parameters and issues that the user must navigate and address accordingly in the most sustainable manner. Restrictions will vary depending on the game difficulty (beginner-intermediate) and users can manipulate scenarios in a sandbox experience with no bounds. To this aim a digital twin which replicates real hydraulics, water distribution modelling and simulation was developed. To undertake such task a project team was set up comprising water experts Alex Rizzo and Edwin Zammit, and a development team made up of Lisa Theuma (3D modelling), Geoffrey Attard (front-end development), Emman Nocilla (VR development) and Daren Scerri (back-end development and team lead).

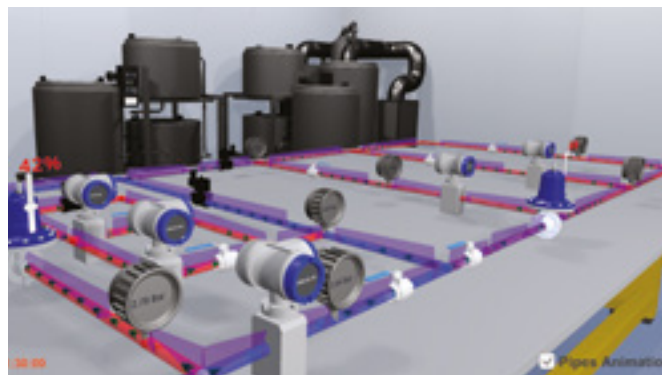
### Collaborative Project Development and Technical Details

The back end entailed the implementation of a Unity C# library of the industry state-of-the-art EPANET open source software originally written in C. EPANET is a software application used throughout the world to model water distribution systems. It was developed as a tool for understanding the movement and fate of drinking water constituents within distribution systems, and can be used for many different types of applications in distribution systems analysis. Today, engineers and consultants use EPANET to design and size new water infrastructure, retrofit existing ageing infrastructure, optimize operations of tanks and pumps, reduce energy usage, investigate water quality problems, and prepare for emergencies. The back end implementation centred on building a Unity C# library using the industry-standard open-source EPANET software (originally written in C). This integration is key to the project's success, allowing any water distribution system designed in EPANET to be imported and parsed into Unity, including MCAST's water rig configuration. Concurrent to the back-end development, 3D models of each component in the rig were procured or modelled. With the back end in place, front-end development focused on accurately building and

simulating the water rig schematic as a 3D digital twin within the game engine. Interactable components like pumps, manual valves, solenoid valves, and pressure valves were coded, providing users with hands-on control to manipulate the rig and observe the effects in real time. One significant challenge was visually depicting water flow and pressure, elegantly solved through semi-transparent pipes with colour gradients, 3D flow arrows, and graphs showing pressure changes. Pressure and flow meters as in the real rig were also included. A major milestone was the actual ground truth testing, calibration, and refinement of the digital twin, which in practice entailed rigorous testing requiring close collaboration between the developers and water experts. The 3D scene was then refactored for a VR experience, by porting in OpenXR SDK and developing VR controller and tactile input systems.

### Key Strengths and Potential Impact

Given that no elements were statically hardcoded, the strength of the solution is the full dynamism, adaptability, and scaling. For example, water rig configuration may be easily changed, and full-scale water distribution systems simulated. Moreover, from a vocational education perspective, multiple learning scenarios may be created. For the purposes of the WATERLINE project, three scenarios and challenges (beginner-intermediate-advanced) related to water rig operation shall be developed. Users can progress through different tasks, each becoming progressively more complex, testing students' knowledge and skills. The application will also provide feedback on the user's performance, and when required include a scoring system or assessments to track the user's progress and achievements.



## What's upcoming?

The development of the digital VR water network test rig marks a significant leap forward in modernizing infrastructure. As we move forward in the project, the next crucial step involves rigorous pilot testing, both locally and internationally, to validate the effectiveness and reliability of the application in the teaching and learning of Digital Water concepts. This pivotal phase not only ensures the refinement of the VR application developed but also underscores our commitment to advancing and also creating a technology transfer framework to enhance innovation and support the exchange of knowledge and technologies between WATERLINE partners and other stakeholders in tandem with the European Education Area.



# ENHANCING EARLY YEARS EDUCATION THROUGH INNOVATIVE COLLABORATION - MCAST'S AND SAN ANTON SCHOOL'S CREATIVE JOURNEY

by Heathcliff Schembri, Senior Lecturer, Institute of Community Services

In Early Years education, the path to excellence is often paved with innovation and creativity. San Anton School, in collaboration with MCAST, embarked on such a journey, setting in motion a transformative project that reimagines early childhood pedagogy. This initiative was not only a research study but also a creative endeavour to elevate teaching practices through the Emergent Curriculum. This article unfolds the narrative of this journey, from the spark of curiosity to the crescendo of shared success.

## **Innovation in Practice: The Emergent Curriculum Project**

The academic year 2022-2023 marked the inception of a project by MCAST together with San Anton School, driven by the goal of integrating and implementing the Emergent Curriculum. The pursuit was ambitious: to delve into the insights of educators from Pre-grade to Grade 3 and the Senior Leadership Team, capturing the essence of their experience. The project's creativity lay in its multifaceted objectives: to harmonize the Emergent Curriculum within the ecosystem of an independent school, engage stakeholders in meaningful dialogue, identify and tackle potential challenges, and forge a path to a unified and holistic application of this progressive curriculum.

## **Cultivating Creativity: Community of Professional Educators' Sessions**

The project's innovative spirit was further ignited through a questionnaire that sought to capture the Early Years team's sentiments. Analyzing this data set the stage for the Community of Professional Educators' (CoPE) sessions. Here, the educators' collective wisdom was harnessed to explore and refine best practices in the Emergent Curriculum, fostering a shared pedagogical vision that blurred the lines between Early Years and Junior Years. My direct interactions with the educators during their weekly curriculum planning sessions were instrumental in sculpting a cohesive educational strategy.

## **Engaging Families in Educational Innovation: Emergent Curriculum Workshops**

Recognizing parents as pivotal co-creators in the educational process, the project placed significant emphasis on their involvement. We organised three interactive workshops for parents. These workshops brought the Emergent Curriculum to life, equipping parents with the understanding necessary to become active participants in their children's creative learning experiences.

## **Celebration of Creative Synergy: Foundation Day Festivities**

The climax of this innovative journey was a celebration of the collaborative spirit on San Anton School's Foundation Day, June 13, 2023. The school's foyer transformed into a gallery of progress, showcasing the outcomes of the research project. This exhibition not only highlighted the creativity and dedication of the teaching team but also stood as a tribute to the power of collaborative innovation in education.

MCAST and San Anton School's tale of educational evolution illustrates a truth: with a shared vision, a collaborative spirit, and a commitment to innovation, progress is achievable in Early Years education. Here's to more research partnerships and ventures which help shape the future of learning and Early Years education in Malta.



# CREATIVITY AND INNOVATION IN BUSINESS

by James Bates, MCAST student reading for a BA (Hons) in Journalism





In the ever-changing world of business, innovation and creativity are the cornerstones that support organizational development and competitiveness. The strategic direction of an organisation and its capacity to adjust to shifting market needs are greatly influenced by the CEO's assessment of these attributes. During an interview with the CEO of a meat company, Ms Gauci explained what the company looks for in its staff members.

Ms Gauci views innovation as a strategic imperative for maintaining a competitive edge in the market and staying ahead of industry disruptions. She stressed the importance of fostering a culture of innovation that encourages cross-functional collaboration, fosters a growth mindset, and prioritizes continuous improvement. The CEO outlined a clear vision for her staff based on three essential pillars: passion, collaboration, and agility. She believes that innovative ideas are sparked by motivated workers and anticipates that her team members will show a sincere passion for their profession, a never-ending quest for excellence, and a readiness to go above and beyond to accomplish shared objectives.

According to Ms Gauci, innovation is rooted in collaboration. Employee collaboration across departments, disciplines, and administrative levels is expected to leverage diverse viewpoints to foster creativity and advance innovation. She emphasized the value of creating an environment that values open communication, honesty and trust, to allow ideas to flow freely and utilize collective intellect to tackle challenging issues. An example would be being aware of other meat companies' price lists or offers, as competitors can easily replace your clients by becoming their new suppliers. Success in today's fast-paced business world requires adaptation. The CEO anticipates that her staff members will adapt to changing circumstances, show fortitude in the face of difficulty, and embrace change. She promotes an environment where failure is seen as a springboard for invention rather than a setback through experimentation. She also explained how they carefully choose their staff by examining how they treat clients and their potential to manage a meat shop.

The insights gleaned from the interview with Ms Gauci shed light on the critical role of creativity and innovation in driving organizational success. As a visionary CEO, her perspective underscores the importance of fostering a culture where creativity flourishes, innovation thrives, and employees are empowered to unleash their full potential. By embracing these principles and aligning their actions with Ms Gauci's expectations, employees can contribute to the ongoing journey of innovation and position their organization for sustained growth and relevance in an ever-evolving marketplace.

# INSIGHTS FROM THE PERUGIA JOURNALISM FESTIVAL 2024: EMBRACING CREATIVITY AND INNOVATION

by Luigi Sghendo, MCAST student  
reading for a BA (Hons) in Journalism



During my first year of a Bachelor's in Journalism at MCAST, I had the unique opportunity to attend the Perugia Journalism Festival held between 16th and 22nd April 2024. For me, this served as a platform for journalists, media professionals, and enthusiasts to explore the role of a journalist as well as the techniques and challenges that are shaping the industry. The festival highlighted how creativity and innovation are integral to modern journalism, driving the profession forward in an ever-evolving media landscape.

Since so much information was acquired during my experience, I will be discussing the three most impactful talks I attended during my stay in Perugia and how they relate to creativity and innovation in journalism.

## **Sigma Award Winners Panel: Innovating with Data Journalism**

One of the highlights of the festival was the Sigma Award Winners Panel which delved into the complexities of data journalism. From counterfeit licence plates in New York City to the cultural erasure of Muslim architecture in China, and the algorithms affecting citizens in Rotterdam, the speakers reminded me of the injustices and complexities hidden in plain sight across the world.

Through data analysis and investigative prowess, these journalists revealed narratives that shed light on pressing global issues. Moderated by Kuek Ser Kuang Keng, the panel underscored the power of combining traditional shoe-leather reporting with cutting-edge data and visual analysis techniques to drive effective storytelling. This panel demonstrated how innovation in journalism—using data and visualization tools—can uncover stories that would otherwise remain hidden, showcasing the transformative potential of modern investigative techniques.

## **Tim Sebastian’s Workshop: Creative Approaches to Broadcast Interview Techniques**

The second session, and perhaps my favourite, was led by renowned journalist Tim Sebastian, who conducted an engaging workshop on broadcast interview techniques. Drawing from his extensive experience, the former presenter of the BBC’s Hardtalk programme and current lead presenter of DW’s Conflict Zone gave us a taste of what confrontational journalism means.

With a focus on holding politicians accountable, Sebastian emphasized the importance of factual preparation and techniques for navigating diversion and ‘whataboutery’. Through interactive discussions and illuminating interview clips, those present, including me, gained valuable insights into the art of conducting incisive and impactful interviews in an era of fast-paced media consumption. This workshop highlighted the importance of creativity in crafting compelling questions and innovating ways to maintain control of the narrative during interviews, ensuring that truth and accountability remain at the forefront.



## Field Journalism: Innovative Storytelling from the Frontlines

Finally, a riveting session brought together four seasoned field journalists and photojournalists who shared their decades of collective experience covering conflicts worldwide since 1990. Delving into the nuances of war reporting across various mediums, including television, photojournalism, and long-format print reportage, the panelists shared invaluable insights into their work's challenges and ethical considerations, recounting stories from the Ukraine-Russian war and the Yugoslavian war, particularly the borders of Serbia and Bosnia and Herzegovina.

From ensuring safety in the field to maintaining objectivity in volatile environments such as Gaza and Israel, the discussion explored the complexities of modern journalism amidst evolving media landscapes. Perhaps what struck me most was the answer to a simple question I asked the panelists. When asked, "How does one know if they are ready to become a war reporter?" the panelists answered, "It is unknown until you go," with Jodie Ginsberg, CEO of the Committee to Protect Journalists, stating, "I went and I wouldn't do it again."

As journalism grapples with the rise of platforms like TikTok and shrinking attention spans, the panelists underscored the importance of compelling storytelling. This session highlighted the need for innovative storytelling techniques that can adapt to new platforms and audience behaviours, ensuring that critical stories from the frontlines remain impactful and relevant.

## Conclusion: Creativity and Innovation in Journalism

The insights gleaned from the Perugia Journalism Festival emphasized the critical role of creativity and innovation in journalism. Whether through the use of data journalism to uncover hidden truths, the development of new interview techniques to hold the powerful accountable, or the adaptation of storytelling methods to suit evolving media platforms, it is clear that these attributes are essential for the profession. By embracing creativity and innovation, journalists can continue to uncover and tell stories that matter, maintaining their relevance and impact in an ever-changing world.







# BRIDGING COMMUNICATION FOR THE MALTESE DEAF COMMUNITY

by Mac Patrick Gauci Mcast student following a  
Bachelor of Science (Hons) in Software Development

In the spirit of innovation and creativity, my project embarks on an exciting journey to revolutionise communication accessibility for the Maltese deaf community. My name is Mac Patrick Gauci, and my AI-powered assistive technology is designed to translate spoken English into Maltese Sign Language (LSM) through a dynamic digital avatar, marking a significant leap forward in bridging communication gaps.

### **Project Overview**

Imagine a world where communication barriers dissolve, where technology facilitates seamless interactions between the hearing and the hard-of-hearing communities.

This vision drove the development of my project, integrating cutting-edge motion capture, automatic speech recognition (ASR), and natural language processing (NLP) technologies. The result is a pioneering prototype that translates spoken language into sign language, bringing conversations to life through a digital avatar.

The journey began with meticulous planning and setup. Leveraging Python, Visual Studio, and Unity 3D, I created an environment where advanced technologies could converge. The avatar, developed using Mixamo, was animated to reflect the nuances of LSM gestures accurately. As the heart of the system, Whisper provided continuous audio recording and transcription, converting spoken English into text, which was then processed using sophisticated NLP techniques to ensure precise and contextually appropriate translations.

### **Development and Evaluation**

The development process unfolded in phases, each critical to the project's success. Initial setup involved creating a robust development environment and configuring essential tools. Core development saw the integration of Whisper for real-time audio transcription and the application of NLP techniques to prepare text for animation. A significant milestone was establishing seamless communication between Unity and Python, enabling real-time data exchange for fluid animations. Motion capture technology at MCAST's Applied Research and Innovation Centre played a pivotal role in recording LSM gestures. These gestures were meticulously edited and re-targeted to the digital avatar, ensuring accurate and lifelike sign language representation. The true test of the prototype came during structured user engagement sessions. Members of the Maltese deaf community and professional interpreters interacted with the technology, providing invaluable feedback. Their insights highlighted the system's strengths and areas needing improvement, such as sign interpretation accuracy, incorporation of facial expressions, and avatar movement fluidity.

### **Key Findings and Future Directions**

The feedback was overwhelmingly positive, confirming the prototype's potential in enhancing communication accessibility. Users appreciated the system's ability to perform basic translations and its use of semi-realistic 3D animations for LSM gestures. However, they also emphasised the need for improvements to make sign language interpretation more natural and comprehensible. Future iterations of the project will focus on refining these aspects. By enhancing sign accuracy, integrating facial expressions and lip reading, and expanding the participant base for broader feedback, the goal is to create an even more effective tool.

The ultimate aim is to achieve greater realism and naturalness in the avatar's movements, ensuring the technology meets the diverse needs of the deaf community.

### **Broader Implications and Conclusion**

The implications of this research extend far beyond the Maltese deaf community. It sets the stage for global advancements in assistive technologies, fostering inclusivity and accessibility in various domains such as education, healthcare, and public services. By pushing the boundaries of innovation and creativity, this project aims to contribute to a world where communication is truly universal.

In conclusion, my AI-powered assistive technology project marks a significant step towards improving communication accessibility for the Maltese deaf community. It embodies the essence of innovation and creativity, promising a more inclusive future where technology bridges gaps and brings people closer together.

NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS

NEWS  
NEWS  
NEWS



S  
WS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS  
NEWS

# NEW MCAST PRESIDENT APPOINTED

Mr Horace Laudi is the new President of the Board of Governors of MCAST. The Ministry for Education, Sport, Youth, Research, and Innovation announced the appointment on 9 July 2024 following Professor Ian Refalo's resignation. Mr Laudi will be the seventh President of the College.

Mr Laudi had a career spanning 39 years and held various positions in the banking industry. In recent years, as Chairperson, he led the Student Maintenance Grants Board within the Ministry for Education and spearheaded necessary changes and improvements in the Board's operation.

The College welcomes Mr Laudi and thanks Professor Refalo for the valuable and professional work he has done for the benefit of the College and MCAST students.





# STEPHEN VELLA AS NEW PRINCIPAL AND CEO, BRINGING OVER 20 YEARS OF VOCATIONAL EDUCATION EXPERTISE

MCAST proudly announces the appointment of Stephen Vella as its new Principal and Chief Executive Officer. The College initiated the application process for this position in June. Vella brings over two decades of experience in vocational education, along with a strong leadership track record within MCAST.

His academic journey began at Savio College and Stella Maris College, followed by degree studies at the University of Malta and Falkirk College of Arts in Scotland. Vella also holds an MBA from the Henley School of Management.

His professional career commenced in 1993 at the Salvatore Dimech School for Craftsmen, where he taught Graphic Design and Photography. His passion for vocational education was quickly recognised, leading to his promotion in 2003 to Deputy Director of the institution. In this role, Stephen Vella was instrumental in enhancing the school's curriculum, streamlining operations, and fostering a culture of innovation.

In 2008, he was appointed Director of the MCAST Institute for the Creative Arts. Under his guidance, the Institute experienced substantial growth, with a marked increase in student enrollment and the introduction of new Higher Diplomas and Degree courses in Fine Art, Interactive Media, Photography, and Media.

In 2015, Stephen Vella assumed the role of Head of the Technical College at MCAST, further expanding his influence within the institution. In March 2017, he was appointed General Manager at MCAST Gateway to Industry, the College's commercial arm. He helped raise MCAST's international profile, representing the institution at major global fairs and conventions.



## WATERLINE PROJECT COMMUNITY OF PRACTICE MEETING HELD AT MCAST

Digital Water refers to the integration of emergent digital technologies such as data analytics, IoT, Artificial Intelligence, and automation into water management systems. This transformation is reshaping how the water industry operates, enhancing efficiency, improving resource management, and enabling real-time decision-making. As utilities and organizations adopt digital water solutions, the demand for skilled professionals in this evolving field is growing.

The WATERLINE project addresses this need. The project, which receives funding from the European Union's Horizon Europe, aims to create a European Digital Water Higher Education Institution Alliance to leverage the individual, institutional and regional resources required for a transformative structural change to be prepared for this new reality.

MCAST successfully held the 2<sup>nd</sup> WATERLINE Project Maltese Community of Practice (CoP) meeting on campus in Paola. Local stakeholders attended the event, in which the College is the project lead partner.

MCAST Principal and CEO Mr Stephen Vella, Deputy Principal at MCAST's Applied Research and Innovation Centre (ARIC) Dr Tajana Chircop, and Water Services Corporation (WSC) CEO Mr Karl Cilia delivered opening speeches.

The WATERLINE project marks the first time that the College led and coordinated a consortium on a HORIZON EUROPE project. The WATERLINE project aims to form a European Digital Water Alliance, bringing together public authorities, industry, academia and citizens to promote innovation and entrepreneurship in the water sector.

The project supports the growth of the Digital Water Alliance by strengthening academic research, developing a master's curriculum in digital water, and creating innovative learning environments through EdTech. It also aims to build a European network of researchers focused on water technology.

During the WATERLINE CoP meeting representatives from industry, academia, civil society and policymakers conferred the importance of having a unified approach to Digital Water implementation. Furthermore, during the meeting discussions were made on identifying the professional networks and fostering collaboration to create a strong sense of community within the Digital Water Alliance. Participants had the opportunity to share various insights about the impact WATERLINE in the area of water education.

Edwin Zammit, principal investigator in the WATERLINE project, outlined some of the key take-home messages from the event, emphasizing the growing importance of digital transformation in water management. He highlighted the need for ongoing collaboration between academia, industry, and policymakers to ensure the development of scalable, sustainable solutions. Zammit also stressed the critical role of upskilling the current workforce, as well as preparing future professionals with the digital competencies required to navigate and innovate within the rapidly evolving water sector.

Another key pillar of WATERLINE is the capacity building activities it organises to enhance the skills of early career researchers and MCAST staff. These initiatives include, summer schools, research opportunities on innovation technology and water education, seminars on project scientific landmarks, training on Life Cycle Assessment, training on personal and professional development skills, training on Digital Learning Environments for faculty members and, hackathon events on entrepreneurship in digital water.

The project also aims to give current and future professionals the skills they need to work in the increasingly tech-driven water industry. This is done by exposing today's students to learning environments that utilize novel learning technologies. During the project, a three-tier learning approach was developed which includes a physical emulation environment (Tier 1 – ELE), an augmented learning environment (Tier 2 – ARLE) and virtual learning environment (Tier 3 – ViRLE). During the meeting, the Virtual Reality water network distribution test rig learning environment, developed by a research team at MCAST under the leadership of Mr. Daren Scerri, was presented. CoP members were given the exclusive opportunity to test out and explore the VR app firsthand.

The WATERLINE project receives funding from the European Union's Horizon Europe HORIZON-WIDERA-2021-ACCESS-05 under grant agreement No 101071306.



## SPARTACUS PROJECT: MCAST AND SETU JOIN FORCES TO ADVANCE AEROSPACE SAFETY

Dr. Leonardo Barilaro, Senior Lecturer at the MCAST Institute of Engineering and Transport visited South East Technological University (SETU) in Ireland at the end of August 2024 as part of the SPARTACUS project. This initiative aims to develop innovative repair techniques for aerospace structures damaged by high-velocity impacts.

Dr. Barilaro is collaborating with Dr. Mark Wylie, a lecturer in SETU's Aerospace, Mechanical, and Electronic Department. During his visit, he presented a seminar titled *"The Growing Threat of Space Debris and Innovative Mitigation Strategies"* to master's and PhD students. He also met with stakeholders

to advance research efforts in the MCAST SBORAEK project and the ongoing ASTROBEAT project, which focus on developing 3D-printed shields for ballistic protection and investigating cold-welding techniques for spacecraft hull repair.

Mark Spiteri, an MSc Aerospace Engineering student at MCAST, is also actively involved in the SPARTACUS project. Spiteri previously visited SETU in April 2024 to collaborate with the team and conduct hands-on experiments as part of his research. His work, alongside the efforts of Ms. Theeba Shafeeg, an MSc student at SETU under Dr. Wylie's supervision, is helping to bridge academic research with practical applications, driving the project's progress forward.

SPARTACUS (Space and Aviation Repair Techniques Against Catastrophic Impacts) is a significant step in advancing aerospace repair technologies. By developing new repair methods, the project aims to improve the safety and reliability of both aircraft and spacecraft. The collaboration between MCAST and SETU merges expertise from both institutions to tackle this critical challenge. The project is financed by Xjenza Malta through the IPAS+ scheme.





# AMBULANT RESEARCH PROJECT HELPS DEVELOP INNOVATIVE MARINE MONITORING SYSTEM

A current research and innovation project, 'AMBULANT,' led by Maltese researchers from MCAST and AquaBioTech Group, has developed an innovative system capable of identifying Mediterranean benthic marine habitats using image processing, computer vision, and machine learning.

The new system created through the AMBULANT research project can autonomously monitor offshore aquaculture sites and provide real-time recognition of benthic habitats through a biomimetic robot – a submarine robotic surveyor designed to unobtrusively mimic the movements of fish.

Experts in marine biology from AquaBioTech Group assisted by researchers from the College's Institute of Information and Communication Technology (ICT) constructed an innovative large dataset of more than 20,000 images, which were surveyed from Maltese waters using a mixture of ROV and diving activities. The dataset was then used to train an AI model that not only performs object detection (that is recognising different classes of underwater species) but also instance segmentation (which provides a fine outline surrounding each identified species). Following the recognition of the different species in an image or video feed, another algorithm was developed to predict the probable habitat based on the species identified. The knowledge used for this algorithm was captured from marine experts and other reputable sources.

MCAST academic researchers who worked on the project explained how one effective way to gauge the health of the oceans is by studying benthic organisms. These organisms are sensitive to environmental changes, making them excellent indicators of ecosystem health. The system created through AMBULANT helps to track these changes and provides valuable data to researchers and policymakers helping them make informed decisions related to the marine world.

This innovative autonomous monitoring system for offshore aquaculture sites offers several benefits, including, efficient monitoring, early issue detection, earmarks sustainable marine practices, helps provide data for decision making, provides scalability since it is adaptable to different marine environments and helps reduce human risk in hazardous offshore environments.

Besides its intrinsic value, this research initiative has important practical implications. Studies have shown that consumers would be more willing to buy fish from fish farms if they could ascertain that the rearing process was not causing environmental degradation. Monitoring results obtained from this and other similar studies, which can clearly show the impact of farming activities on the seabed, may be made publicly available. This would constitute a strong incentive for fish farming companies to clean up their act where necessary.

Project AMBULANT received funding from Xjenza Malta and the Ministry for Science and Technology of the People's Republic of China (MOST), through the Sino-Malta Fund 2021 (Science and Technology Cooperation) under grant agreement number SINO-MALTA-2021-18.



## 120 STUDENTS COMPLETE THE 'FUTURE INNOVATORS SUMMER SCHOOL' PROGRAMME AT MCAST

MCAST successfully held the technologically-themed summer school programme, – 'Future Innovators' for 120MCAST successfully hosted the "Future Innovators" summer school, a technology-focused programme for 120 students aged 13 to 16 at its Paola campus. The accredited initiative aimed to spark interest in STEM subjects, encouraging participants to explore these fields further in their education.

Throughout the summer, students gained practical skills in advanced tech areas such as Cybersecurity, Artificial Intelligence (AI), Game Development, 3D Printing, Digital Video Production, Esports, Robotics, and Coding.

Through practical projects and interactive learning offered during the programme attendees developed key competencies which will help them solve real-life challenges in their future careers within the rapidly evolving tech industry. Students were taught the importance of teamwork and peer collaboration, the value of creativity and innovation in today's IT industry, and problem-solving techniques.

This year's Future Innovators summer school programme ended with an award ceremony held on campus, attended by all students and their parents. All participants were presented with award certificates for completing the programme.

MCAST President of the Board of Governors Mr Horace Laudi, and MCAST Deputy Principal for Business Development and Communications Mr Stephen Vella, presented the award certificates to all participants students.

The Future Innovators programme helps the College attract more prospective students by generating interest in ICT-related courses and potential tech-related career opportunities. MCAST and the Institute of Information and Communication Technology (ICT) aim to inspire and nurture students in becoming future leaders within the ever evolving tech landscape. The College currently offers a wide array of courses related to this sector, ranging from Level 1 award certifications up to Level 6 Bachelor degree programmes of study.

The Future Innovators summer school programme was held in collaboration with the Malta Digital Innovation Authority (MDIA), ESkills Malta Foundation and Tech.mt.



## MCAST AND OHSA JOIN FORCES TO BOOST THE HEALTH AND SAFETY SECTOR

MCAST and the Occupational Health and Safety Authority (OHSA) are collaborating to encourage more individuals to follow academic courses and careers within the local health and safety sector.

Chief Executive at the Occupational Health and Safety Authority (OHSA) Dr Josianne Cutajar said, “The Diploma in Occupational Health and Safety offered at MCAST is not only recognized by the Authority but also guarantees prospective students a fruitful and rewarding career upon graduation”.

The College through the Institute of Engineering and Transport (IET) is currently offering a Level 5 Undergraduate Diploma in Occupational Health and Safety. This programme of study gives students the skills necessary to embark on a career in the field of occupational health and safety, especially as Occupational Health and Safety Practitioners with the National Occupational Health and Safety Authority (OHSA), advising employers on the OHS measures that need to be taken.

# MCAST HOSTS THE INAUGURAL EDITION OF THE EUROPEAN DUAL HIGHER EDUCATION CONFERENCE

MCAST hosted the first edition of the European Dual Higher Education Conference (EU4Dual) on campus in Paola. Several project meetings and a conference took place on campus from 8th to 11th April 2024.

The European Dual Studies University (EU4Dual) is co-funded by the Erasmus+ European Universities Alliance Programme. It is a transnational alliance between nine higher education (HE) institutions across Europe, namely, MCAST, Mondragon University in Spain, FH Joanneum University of Applied Sciences in Austria, École Supérieure des Technologies Industrielles Avancées in France, Koszalin Technological University in Poland, Duale Hochschule Baden-Württemberg in Germany, PAR University College in Croatia, Savonia University of Applied Sciences in Finland and John von Neumann University in Hungary.

In a video address, the European Commissioner for Innovation, Research, Culture, Education and Youth Iliana Ivanova said: “I am impressed by the work you have initiated in just one year preparing five specialised inter-disciplinary dual Masters and developing a quality framework for dual studies. Your ambition for academic mobility between institutions shows you have set a high standard. At European level, we are committed to supporting this project under the European University initiative.”

The conference’s main objective was to delve into the ever-evolving landscape of work and educational policies, offering a platform for visionary discussions and practical solutions. Two main themes were discussed during the conference: ‘Future of Work’, where issues such as technological disruptions, remote working dynamics, and skills needed for industry 5.0 were discussed, and ‘Dual Higher Education’, with discussions focusing on policy tasks that help shape the future of education.





## MCAST INSTITUTE OBTAINS ASSOCIATE MEMBERSHIP WITH THE ALICE

(A Large Ion Collider Experiment)

The Institute of Engineering and Transport (IET) at MCAST has obtained an associate membership with ALICE at CERN which is the European Laboratory for Particle Physics. Founded in 1954, it is located on the Franco-Swiss border near Geneva.

The ALICE is a detector dedicated to heavy-ion physics at the Large Hadron Collider (LHC). It is designed to study the physics of strongly interacting matter at extreme energy densities, where a phase of matter called quark-gluon plasma forms. The ALICE collaboration involves a huge collaborative effort, consisting of 2,000 scientists from 174 physics institutes in 40 countries.

The collaboration agreement was formalized on 15th March 2024, through an official Memorandum of Understanding (MoU) signed by the then MCAST Principal and CEO Professor Joachim James Calleja, the Director at the Institute of Engineering and Transport (IET) Ing Stephen Sammut, and the spokesperson of the ALICE project Dr Marco Van Leeuwen.

The MCAST team for the ALICE project is coordinated by Ing Stephen Sammut and currently comprises three academics working at the Department of Electrical and Electronic Engineering (Deputy Director in charge Ing Carolina Sofia), namely, Dr Ing Jeremy Scerri, Dr Ing Kevin Theuma and Dr Ing Joseph A. Zammit.

The MCAST team is currently working on several projects, including the High Momentum Particle Identification Detector (HMPID) project and the Large Hadron Collider (LHC) Interface project. The MCAST academics are working to expand research in this field as the collaboration with CERN advances.

This collaborative agreement will also provide opportunities for MCAST students to carry out research projects supported by CERN through the provision of their labs and expertise.

## FIVE AGREEMENTS SIGNED WITH CHINESE UNIVERSITIES

Over the past weeks, MCAST and its commercial arm, MCAST Gateway to the Industry (MG2i), have forged significant and mutually beneficial agreements with five prestigious Chinese universities, marking a significant milestone in the College's global outreach.

These higher education institutions include the Jiangsu Vocational College of Medicine, Guandong Business and Technology University, Guangxi University of Science and Technology, Beijing Institute of Technology, and Beijing Polytechnic.

Education Minister Clifton Grima also visited China to strengthen ties in the education sector. The Malta delegation included MCAST former Deputy Principal Mr Vella and Education Malta Charles Zammit. They were accompanied by Malta's Ambassador to China, H.E. John Busuttill, during meetings held in Beijing, and Consul Lisa-Marie Azzopardi during meetings held in Shanghai.

Former Deputy Principal Mr Vella said, "These partnerships will not only enhance MCAST's global presence but shall also provide valuable opportunities for academic and cultural exchanges between MCAST and the Chinese universities."

## **INNOVATIONGUIDE: A BEACON FOR RURAL INNOVATION ECOSYSTEMS BEGINS ITS JOURNEY**

The InnovationGUIDE project has officially kicked off with a successful launch meeting at the Turkish Exporters Assembly (TIM) headquarters in Istanbul. This ambitious project, comprising six entities from Turkey, the Netherlands, Spain and Malta, focuses on identifying regional needs and connecting rural innovation ecosystems to foster entrepreneurship and economic development in the regions.

With a total budget of €496,862.50 and a duration of 12 months from January 2024, InnovationGUIDE will have a focus for policymakers, researchers, and practitioners interested in promoting sustainable, inclusive economic growth in rural areas.

Funded by the European Innovation Council and the SMEs Executive Agency (EISMEA), InnovationGUIDE will power the Pan European Countries' rural areas by enabling innovators, including deep tech and social innovation start-ups, to take better advantage of the single market and attract new institutional investors to strengthen financial and capital markets to commercialise and scale companies in their countries.

The project is integrated by the Turkish Exporters Assembly (TIM), Universiteit Maastricht, Fundacion Empresa-Universidad Gallega (FEUGA), the Malta College of Arts Science and Technology (MCAST) and StartupCentrum.

## **IRISH PRINCIPALS VISIT MCAST**

MCAST hosted eight principals from different vocational colleges in Ireland on 3rd May 2024. The delegation included representatives from Ballyfermot College, BIFE, Coláiste Íde College of Further Education, DIFE, FTE, GTI, Mayo College, St John's Central College and Waterford College of Further Education. During the visit the delegation collaborated actively, sharing insights on vocational education, and exploring innovative approaches.

The Irish principals expressed their appreciation for the invaluable experience. They had the opportunity to visit the MCAST campus and converse with some Institute Directors and the Centre for Applied Research and Innovation (ARIC). Furthermore, they spoke about the difficulties of vocational education in today's changing education landscape and shared ideas for overcoming these hurdles.

## MCAST'S COLLABORATIVE MASONRY HERITAGE SKILLS PROJECT

When MCAST was established, one of its primary objectives was to offer vocational education and training to students. This mandate not only involved students engaging in apprenticeships with private organizations, firms and government entities, but also entailed close collaboration with various local councils. These councils have sought assistance from MCAST in a range of projects.

For students enrolled in the Advanced Diploma in Masonry Heritage Skills at Level 4 and the Higher Diploma in Masonry Heritage Skills at Level 5, this collaboration has provided invaluable opportunities to participate in practical restoration work on chapels, statues, niches, monuments and other masonry artefacts.

The partnership with the Birkirkara Local Council, spanning eight years, stands out as a particularly fruitful collaboration. MCAST students have contributed to the restoration of numerous statues and niches scattered throughout the town. Additionally, they have been involved in renovating significant landmarks such as the tram station and the fountain at I-Istazzjon Gardens. This hands-on experience has deepened the students' understanding of the intricate processes involved in masonry artefact restoration. They have gained practical insights into cleaning techniques, various restoration processes tailored to specific degradation issues, and the meticulous replacement of damaged components to restore artefacts to their original condition as closely as possible.

Credit is due to lecturers Alex Caruana and Mario Schembri for their exemplary guidance and coordination, particularly in the delicate task of lowering and raising statues from and to their original niches.







# RESEARCH FELLOWSHIP SCHEME LAUNCHED AT MCAST



MCAST, together with the Ministry for Education, Sport, Youth, Research and Innovation (MEYR) and in consultation with the Malta Chamber of SMEs, launched a Research Fellowship Scheme on campus in Paola.

The aim of the scheme is to provide financial support for Research Fellowships fostering joint Research and Innovation projects between economic stakeholders and MCAST in the following areas: Smart Manufacturing, Sustainable Use of Resources for Climate Change Mitigation and Adaptation, and Future Digital Technologies.

The scheme shall be providing a maximum of €150,000 financial aid for research projects and each researcher will benefit from up to a maximum of €30,000.

Parliamentary Secretary for Youth, Research and Innovation Keith Azzopardi Tanti explained how, “This scheme created through consultation with the Malta Chamber of SMEs not only proves our dedication to academic excellence but also highlights the innovative collaboration between academia and the industry. We are providing financial aid for Research Fellowships to create a dynamic ecosystem where knowledge and resources guide the growth of our educational and financial sectors aimed at fostering economic growth. Together, we can embark on a transformative journey where schemes like this one guide collaboration and advancements which will help Malta move forward towards excellence in research and innovation.”

At MCAST, research and innovation significantly advance knowledge and address real-world challenges. The College is actively involved in various research areas and initiatives, showcasing a commitment to academic excellence and practical solutions.

The Applied Research and Innovation Centre (ARIC) oversees research projects, planning, monitoring and evaluation. The Centre’s annual Research Expo has become a prestigious yearly event highlighting and showcasing applied research that generates new knowledge, solves real-world problems, facilitates learning processes and fosters collaboration for disseminating findings and solutions.

The Deputy Principal at the College’s Applied Research and Innovation Centre (ARIC) Dr Tatjana Chircop said, “As a centre of applied research and innovation MCAST is enforcing its main principles within the realm of research in order to focus on themes that address everyday life situations and real-life problems. As members of the European Union we are contributing within the research and innovation sectors and helping in strengthening our research acumen together with the industry.”

By encouraging the exchange of expertise and resources, the programme seeks to contribute to the long-term growth and competitiveness of Malta’s educational and financial sectors. This will advance the frontiers of research and cultivate a dynamic ecosystem where academia and industry mutually benefit from shared insights and advancements.

# PRESIDENT VISITS 2024 BUSINESS CAREER EXPO AT MCAST

MCAST and the Institute of Business Management and Commerce (IBMC) organised the Business Career EXPO 2024 on campus in Paola during April 2024. The initiative, spread over two days, focused on career paths related to business.

Her Excellency the President of Malta, Miriam Spiteri Debono, visited the EXPO. This marked the President's first visit to the MCAST Paola Campus.

Addressing staff and students, the President said, "Students are the foundation for the future, and those who are guiding them to fulfil their dreams are greatly contributing to our society." She thanked all EXPO participants for their contribution towards the Malta Community Chest Fund.

The Business Career EXPO brings industry partners closer and helps them benefit from the opportunity to meet the College's students in their academic environment. During

the event, students following business-related courses at the College met and discussed future opportunities with industry partners. This providing them with the perfect networking session. The College makes every effort to ensure that its students understand the importance of the business world.

The Director at MCAST's Institute of Business Management and Commerce (IBMC), Mr Andrew Galea, explained, "The IBMC regularly organises networking events, programme reviews with industry partners, job exposures within its courses, and real-life cases within the lectures. This is part of the College's industry-on-campus approach that prepares all students for employment and, more importantly, with the required soft skills. We are grateful for the constant support received from industry."

The event's main sponsor for this initiative was the Central Bank of Malta.



# MCAST LAUNCHES NEW BACHELOR'S DEGREE IN SPORTS COACHING

The MCAST Institute of Community Services held a conference titled 'A Collegial Gameplan: A Business Breakfast for Partners in Sports' to present and discuss the Fun Fit 5 (FF5) research report and the findings from the Sports Symposium 2023 report.

During the conference, MCAST launched a new Level 6 Bachelor's degree in Sports Coaching, which was identified as a critical need during the Sports Symposium 2023. This new programme of study, which will be offered by the Institute of Community Services from October 2025, aims to equip learners with knowledge that will allow students to pursue sports-related coaching careers.

The FF5 project is an initiative that aligns seamlessly with current local needs to foster a commitment to physical activity from a young age. By studying the impact of physical activity on the academic and physical performance and on the well-being of children in primary state schools in Malta, the project contributes valuable insights and recommendations for policy making and practice.

MCAST researchers from the Institute of Community Services (ICS), namely Dr Melanie Darmanin, Dr Renzo Kerr-Cumbo, Dr Matthew Muscat Inglott, and Mr Heathcliff Schembri, worked on an experimental research design project during the academic year 2022-2023. The Inhobb il-Futbol Foundation (IFF) within the Malta Football Association (MFA) spearheaded the programme in tandem with the MCAST researchers. Research carried out by College academics was instrumental in unearthing the effect that students' participation in physical activity had on their academic and physical performance, and on their well-being. The research included interviews with teachers, LSEs, the SLT, parents, and children, observations and various quantitative tools.

The Director at MCAST's Institute of Community Services (ICS), Ms Ann Marie Cassar, said, "The Institute is unique in its amalgamation of professionals hailing from different

sectors due to its wide array of courses. The analysis and findings stem from solid methods that allow significant recommendations to be made. As a vocational college, MCAST, in its continuous collaboration with different stakeholders, prepares learners for their journey beyond College and delves into research projects that pave the way for a clearer direction and informed decisions to be made when setting the path ahead."



# MCAST AVIATION DEPARTMENT HOLDS AVIATION COURSES SECTORIAL MEETING



As part of the Encounter Meets the Industry series, the Institute of Engineering and Transport (IET) held the Aviation Operations and Logistics Sectorial Committee meeting on campus in Paola. MCAST constantly ensures that industry expertise and feedback inform course design and delivery to ensure that learning stays relevant to the needs of employees and employers.



The main objective of this initiative was to ignite a discussion on the industry relevance of aviation courses provided by the College and ensure that the programmes on offer are aligned with the needs of the local aviation industry.

Major stakeholders from the Aviation industry attended and participated in the event. These included representatives from the local aviation industry, academics, students and significant logistic players.

Institute Director Ing Stephen Sammut spoke about the Institute's progress across different sectors, offering students opportunities at different levels. The Aviation, Transportation and Logistics Department at MCAST offers a variety of aviation courses, ranging from Level 2 certificates up to Level 7 Master degrees. The department currently hosts more than 200 students following full-time courses.

During the event, the Deputy Director of the Institute of Engineering and Transport Ing Roberto Tiscio said, "As a College and Department, we are committed to ensuring the industry relevance of our courses. Building a strong relationship with industry partners allows us to work with them to ensure fruitful and rewarding careers for MCAST graduates within the aviation sector."

MCAST representatives presented new ideas for improving current aviation courses during the event. At the same time, participants provided feedback on current trends and the future needs of major players within this sector. Aerospace Engineering senior lecturer Dr Leonardo Barilaro presented the Astrobeat project – an exciting space mission project and the first of its kind for the College. The project proposes for the first time the investigation of the cold-welding phenomenon for use in spacecraft hull repair following a hypervelocity impact by space debris. An experimental test rig will be tested and qualified at TRL 6 on the International Space Station, thanks to an environment providing micro-gravity conditions for an extended period of time.

Students who attended the event had the opportunity to explore what kind of skills are relevant within this industry. Moreover, the event exposed students to available careers once they finish their educational journey at the College.



# INDUSTRY PROFESSIONALS AND ACADEMICS ATTEND THE NURSING SYMPOSIUM AT MCAST







The Institute of Applied Sciences at MCAST (IAS) held a Nursing Symposium on campus in Paola.

The event brought together local and international nursing experts, international guest speakers, academics, students and other significant stakeholders from within the nursing industry to exchange knowledge and experiences in a way that promotes the importance of the nursing profession.

The Nursing Symposium was organised by a group of academics teaching at MCAST's Institute of Applied Sciences (IAS). Speaking during the event launch, IAS Director Paula Grech Bonnici said, "This symposium offers opportunities to MCAST nursing students to network with local private and public organisations, enhancing their outlook on potential work placements and exploring avenues for further development. As a College, we are committed to strengthening ties with industry leaders and professionals, including within the nursing sector, to ensure the industry relevance of our courses and the provision of increased career opportunities for our students."

The symposium helped bring the research and practice components of nursing closer while providing networking opportunities for students following the BSc Nursing programme at the College and healthcare professionals.

International speakers Professor Alison Machin, Chair of the Council of Deans of Health in the United Kingdom, and Dr Lindsay Groenvynck, a researcher at Maastricht University, attended the event. During their interventions, both speakers outlined the importance of the nursing profession locally and internationally. They earmarked how nurses help make the healthcare industry more robust and efficient for the whole community's benefit. Discussions on innovative education and clinical nursing practice were also held during the event.

The Nursing Symposium helped nursing students at MCAST by boosting their professional development through enhancing their knowledge, skills and understanding of current trends and best practices. The event's main sponsor was CareMalta and support was also given by Medina Healthcare.

# MCAST AND MCVS SIGN COLLABORATIVE AGREEMENT

MCAST and the Malta Council for the Voluntary Sector (MCVS) have signed a collaborative agreement aimed at strengthening cooperation, networking and knowledge sharing between the two institutions.

Minister for Education, Sport, Youth, Research and Innovation Clifton Grima said, "Through this agreement we are noting the importance of the voluntary sector and the important role it plays in changing people's lives. It is significant that the new Hub will be situated on a student campus at MCAST, since we know how much students are actively participating in different social situations. This agreement also showcases how different local institutions are teaming up to provide students with more opportunities."

This agreement will enable MCAST and MCVS to work together to develop programmes for volunteers and voluntary organisations, support and promote the aspect of volunteering, and cooperate in developing training programmes, guides, and resources on the engagement and management of volunteers.

Minister for Inclusion and the Voluntary Sector Ms Julia Farrugia Portelli explained, "The presence of the Volunteer Hub at MCAST will send out a strong message in favour of volunteering amongst students. We should give students the chance to become positive change agents. As a government we will continue to invest and dedicate resources to promote the volunteering sector as a tool that students can use to create a bright future."

MCAST and MCVS will work in tandem to support active volunteering on the College campus in Paola by establishing a physical presence of MCVS in collaboration with the Volunteer Support Team and the MCAST Events and CSR Department. This initiative shall include the training and engagement of MCAST students in the promotion and provision of information related to volunteer organisations and volunteer opportunities.

Speaking during the event signing ceremony, former MCAST Principal and CEO Professor Joachim James Calleja expressed his satisfaction and said, "Such an agreement will benefit the goals of both institutions both in terms of advancing the principles of volunteering and of creating successful educational experiences for students. As a College, we are committed to focusing on creating strong partnerships with local institutions for the benefit of our students, staff, and the wider community."



# EUROPEAN EDUCATIONAL ASSOCIATIONS ANNOUNCE INTERNATIONAL CONFERENCE

EfVET (the European Forum for Vocational Education and Training), EVBB (the European Association of Vocational Training), and EVTA (the European Vocational Training Association) joined forces for the first time in their long history and organized an international conference on a European Agenda for the Future of VET at the AutoWorld in Brussels from 23rd to 24th May 2024.

Over 260 delegates from 45 countries participated, including VET practitioners from China, Morocco, Algeria, the United States, Canada, Palestine, Egypt and Malaysia. The ex-MCAST Principal and CEO Professor Joachim James Calleja was one of the three conference chairpersons. The others were the presidents of the two other organisations, Giorgio Sbrissa (EVTA) and Thiemo Fojkar (EVBB). The meeting focused on three overarching themes: the VET eco-system, Excellence and Empowerment, and Leadership. Experts from the EC, the OECD, WorldSkills, SMEunited, Business Europe, Tknika and other non-governmental organisations and training practitioners, led the panel discussions.

The scope of the conference was to initiate a European and global VET reform process that would establish the levels of excellence, quality and relevance of VET provision to learners and employers. The target is to enable VET practitioners to take ownership of the VET reform processes that determine the quality standards and the esteem of VET among employers and other stakeholders. In his opening speech, the former MCAST Principal and CEO said: “The Copenhagen process in 2002 gave high hopes to a European VET system at par with other sectors of education. This process has achieved remarkable targets in bringing players together to discuss the reform structures VET needs but has failed to impact the heart of VET and training practitioners. Research in VET has been sterile and taken over by organisations outside the EU system. From a golden age of VET, we now risk moving to a bronze age in which training providers will continue to act as stakeholders in EU fora when their real role is that of shareholders of important landmarks in VET provision in excellence, quality and esteem.”

Participants had the time to discuss challenges facing VET at European and global levels, including the impact of AI, quality assurance, excellence, the role of employers and, in particular, SMEs, micro-credentials, teacher training, support services in VET, and governance and financing. At the end of the conference, the Presidents of EfVET, EVBB and EVTA (the most significant European associations of VET practitioners) signed a manifesto pledging their commitment to establish more vital collaboration, increase funding for VET, promote global internationalisation of VET, advocate for statutory representation of VET practitioners in EU agencies and decision-making processes, create an EU Quality Label, and initiate a reform process that will put VET at par with other sectors of education.

# EXPLORING SICILY'S AGRICULTURAL TREASURES: A WEEK OF LEARNING AND DISCOVERY



A group of students following Fisheries, Aquaculture, Veterinary Nursing, and Horticulture courses at the Centre of Agriculture, Aquatics, and Animal Sciences (CAAAS) within MCAST embarked on a transformative week-long site visit to Sicily. Guided by their lecturers, this educational experience offered invaluable insights into the intricate Sicilian farming practices.

The trip started with a visit to a freshwater fish hatchery and sport fishing facility. Amidst the tranquil beauty of nature, students delved into the science of creating artificial lakes, farming of fish, and aquaponics. Students also visited a buffalo farm, where they learnt about husbandry, nutrition, and the artisanal production of Italy's prized mozzarella. There they witnessed first hand, the dedication and craftsmanship required to cultivate this culinary delight.

The journey then led the learners to an ancient water mill nestled within a cave—a testament to Sicily's rich historical heritage. Here, they learnt about ancient engineering and the milling process and gained insights into flour production. Next, students visited a vibrant herb farm where they appreciated the art of herb production.

The students were captivated by the narrative of an entrepreneur – a testament to the resilience and determination required to transform dreams into reality. The trip ended with a visit to a botanical garden and park, and a plant nursery covering more than 600 hectares of land and producing more than 5,000 varieties of Mediterranean plants.

This trip not only helped students gain a deeper understanding of the symbiotic relationship between humanity and the land, but they also returned home with broadened horizons in terms of project and entrepreneurial possibilities.



# AVIATION STUDENTS AT MALTA IN SPACE EVENT

The Institute of Engineering and Transport (IET) hosted a lecture for its aviation students on 23rd May 2024. The event focused on the significance of space research and its applications in the aerospace industry. It provided a unique opportunity for students to delve into the world of space exploration and its relevance to their field of study. The seminar introduced students to the groundbreaking Maleth I, II and III projects and the Astrobeat project.

Institute of Engineering and Transport (IET) Deputy Director Ing Roberto Tiscio emphasised the importance of sharing knowledge and expertise across different institutions. He explained how MCAST has been widening its portfolio and now offers a unique Master's programme in Aerospace Engineering.

Guest speaker Professor Joseph Borg from the University of Malta shared insights on developing the successful Maleth

projects. Professor Borg highlighted the practical applications of the space bioscience experiment, which investigated the effects of microgravity on foot ulcer microbiomes in Type 2 diabetes patients. This experiment showcases the practical applications of space research and its potential to improve our understanding of various scientific phenomena. MCAST and MG2i collaborated with the University of Malta on the Maleth III project.

Senior lecturer Dr Leonardo Barilaro presented the Astrobeat project, a pioneering initiative that leverages the cold-welding phenomenon to develop a new method for repairing spacecraft hulls.

The seminar served as a platform for students to learn from experts in the field and engage in discussions about the future of space exploration and its applications in aviation. It emphasised the need for continued research and development in the aerospace sector and the importance of international collaborations in driving innovation.

By introducing students to projects like Maleth and Astrobeat, the event aimed to inspire a new generation of professionals to pursue careers in aerospace engineering and research, ultimately contributing to the advancement of the field.



# MCAST STUDENTS PARTICIPATE IN EUROSCOLA EVENT

Students following courses at MCAST's Institute of Engineering and Transport (IET) participated in the Euroscola event organised by the European Parliament.

The Euroscola programme in Strasbourg brings together students from all 27 EU member states, applicant countries and former member states to debate, negotiate, amend, vote and finally adopt resolutions on real European issues. The students got the opportunity to familiarise themselves with the workings of the European institutions, to discuss the aspects of democracy, fundamental rights and European values, and to express their personal opinions on the decisions taken at the European Union level.

MCAST students who participated in this event are currently following aviation courses at the College's Aviation, Transportation and Logistics Department.

The President of the European Parliament Dr Roberta Metsola invited the MCAST students and accompanying lecturers, including senior lecturer at the Institute of Engineering and Transport Ms Vanessa Titley, to her office to discuss how the European Union can continue empowering students and help them voice their opinions.

This experience will help enhance participant students' ability to engage with complex issues and develop critical thinking skills essential for their future careers in aviation and related fields.



## EARLY YEARS FORUM HELD AT MCAST

MCAST, in collaboration with the Institute of Community Services (ICS), recently held the Early Years Forum on its Paola campus. The forum aimed to foster the creative co-construction of knowledge in local kindergarten settings. Through the ICS, the College is working to empower kindergarten educators, encouraging them to manifest their creativity through the use of arts.

The event was attended by MCAST academics, industry practitioners, and education professionals who shared ideas on active education within the kindergarten sector.

The Institute of Community Services makes every effort to address potential gaps within the education sector through networking opportunities, conferences, industry collaboration initiatives and research projects, including dissertations that produce tangible results within the sector.

Speaking during the event, MCAST Director for the Institute of Community Services Ms Ann Marie Cassar said, “This event aims to empower kindergarten educators to help children transform themselves into active agents in their own learning. This discussion with stakeholders involved ensures that our learning experience at MCAST is aligned with classroom practice.”





# THE PRESIDENT OF THE EUROPEAN COURT OF AUDITORS VISITS MCAST

MCAST hosted the President of the European Court of Auditors Mr Tony Murphy on 3rd June 2024. The delegation included Malta's Auditor General Mr Charles Deguara, Malta's representative on the European Court of Auditors Dr George Hyzler, and the Permanent Secretary for European Funds Mr Jonathan Vassallo. The delegation also included other members from the Court of Auditors and the National Audit Office.

The guests were hosted at MCAST by the College Administration Deputy Principal Mr Philip Vella, Member of the Board of Governors and Chairperson of the Internal Audit Committee Mr Anthony Scicluna, and MCAST Internal Audit Director Mr Mario Pace.

The visit provided a unique chance for Mr Murphy and his colleagues to see for themselves how MCAST is utilising the EU funds that it obtained through various programmes and initiatives. They were shown around the MCAST Resource Centre, with special attention being given to MCAST's state-of-the-art Library. They were also shown the new block being finished, which will soon host the ICT Institute.

During the tour of the Library the guests were also accompanied by MCAST Deputy Principal for Research and Innovation Dr Tatjana Chircop, and by MCAST Library and Learning Resource Director Ms Liza Franco.

# MCAST HOLDS STREAM PROJECT SEMINAR

MCAST held a seminar on campus in Paola, to present the progress and results of the STREAM project.



The STREAM project is an MCST Space Research Fund project intended to bring satellite earth observations closer to users by providing data on demand with access through dedicated downstream services over smartphones and iPads. It takes advantage of the technology step shift in the value addition chain of data, transforming data into information, knowledge, and intelligence, providing sophisticated user experiences online, with faster delivery and service elaborations on a wider range of more affordable smart mass media like smartphones, tablets, and other wireless devices.

The launch of a data service on smartphones, which revolutionizes data access, easy and fast even for non-professionals, was announced during the seminar. Moreover, as part of the project, a prototype digital platform to serve local stakeholders, operators, economic endeavours, and general users with specific innovative applications to aid, optimise, empower, and enhance their activities, operations and products, was launched.

Speaking during the seminar, Parliamentary Secretary for Youth, Research, and Innovation Hon. Keith Azzopardi Tanti said, "This seminar represents a significant milestone in our efforts to enhance research and innovation. The STREAM project is truly innovative since it readily makes data easily accessible to diverse stakeholders. The STREAM project showcases the power of collaboration between MCAST and other local SMEs. Projects like STREAM turn challenges into opportunities and ensure sustainable development for the benefit of our society."

STREAM is mainly intended to enhance the level of access and application of space data with local users, including at citizen level, to facilitate the integration of such data into daily endeavours by operators and responsible entities, for decision-making, higher efficiency, and performance at reduced risks, delivering tailor-made and added value services needed at different scales, disciplines, and levels of society.

Project leader and MCAST senior lecturer Professor Aldo Drago explained, "The STREAM project is intended to popularise the use of satellite data by making it widely available. The project is now starting to deliver marine data services needed by key stakeholders and supporting sustainable development and climate change monitoring at the local scale. The seminar is a sequel to the project launch last year, and we shall strive again to deliver an impactful event to further boost the use of satellite data in many applications serving society."

The STREAM project is led by the scientific and technical inputs from the newly established oceanography section at the Institute of Engineering and Transport (IET) at the College. MCAST Director at the IET Ing Stephen Sammut said, "It is a pleasure to see academics from the IET Institute engage in such an innovative scientific project. Our research at MCAST needs to be accessible to the wider community and this project enhances this facet through the provision to the user of personalised data on a smart phone."

The project also aspires to network key local players in satellite research to exploit synergies, capitalise on past project deliverables and generate new larger joint efforts. This forms part of the national R&I strategy to enhance access to and sharing of space-based data in favour of exploitation by private and public initiatives, through specific services and applications, in support of notable social and economic benefits.

STREAM is supported by MST Audiovisual Ltd and THINK Design Ltd.

**MCAST AND THE  
MALTA CRAFTS  
FOUNDATION SIGN AN  
MoU TO STRENGTHEN  
COLLABORATION FOR  
THE SUSTAINABILITY  
OF THE LOCAL  
ARTISAN SECTOR**



MCAST and the Malta Crafts Foundation signed a Memorandum of Understanding (MoU) pledging a collaborative relationship to enhance the awareness of traditional artisan trades and to strengthen the education provision of skills involved in the innovation of these crafts. The agreement was signed at the College's Institute for the Creative Arts in Mosta, which offers a wide selection of courses on a full-time and part-time basis.

Central to this collaboration are the MCAST students and craft-makers, who will play an active role in exploring ways to develop and promote educational awareness and programmes on traditional crafts and trades.

The collaboration will extend beyond the signing of the MoU, as both entities will work together to identify apprenticeship and work placement options in the sector, ensuring a practical and hands-on approach to learning.

Professor Joachim James Calleja, ex-MCAST Principal and CEO, expressed satisfaction at the signing of this MoU, stating that: "This MoU will open the doors for our students to obtain a better understanding of the artisan sector, experience opportunities within this industry and experience first hand Maltese crafts and trades through work-based learning." He added: "The College needs to be of service to our communities by promoting and enhancing the appreciation of crafts and trades in Malta. The College intends to promulgate the skills to safeguard against the disappearance of different crafts."

The CEO of the Malta Crafts Foundation, Mr Elton Micallef, welcomed the signing of the MoU. He said: "Whether for their aesthetic beauty or for their practical use, artisanal products have been an integral part of Maltese heritage and local traditions for centuries. This MoU will help guarantee the sustainability of the sector by filling in the skills gap which is being felt in many industry sectors around the globe. This is particularly a challenge within the local crafts sector where, despite a growing labour market, there are less people who are trained to work with their hands or to be creative. The MoU will also contribute to bring in fresh ideas and the element of innovation, which are much needed for the survival and sustainability of the local artisan sector."



## FUNDRAISING ACTIVITIES BY THE COLLEGE COMMUNITY

Staff and student fundraising activities at MCAST are important because they can foster a culture of social responsibility and support the College's mission of preparing students for a meaningful contribution to society. Over the past months, several fundraising activities have taken place on campus, showing the community's enthusiasm for uniting in aid of good causes.

On 2nd May 2024, MCAST presented a donation of €1,030 on behalf of MCAST staff members, a testament to the collective effort of the MCAST community in

supporting Thiago's Journey. This donation, highlighting the power of community engagement in making a positive impact, was collected through staff community social responsibility activities, namely a Ftira Day and an Easter raffle held at MCAST in March 2024.

Thiago was diagnosed with Duchenne Muscular Dystrophy (DMD), a genetic disorder that gradually weakens the body's muscles. Costs for new treatments, medications, equipment, and ongoing care are significant and fundraising activities can help make a difference in the face of all the challenges.

In another fundraising activity held in April 2024, Inclusive Education students from the Institute of Community Services organised a bake sale in aid of Dar Bjorn. Founder Bjorn Formosa visited the activity and thanked staff and students for their efforts to help the organisation, which runs a neurological home in Malta. Founded in 2017, it provides 24/7 nursing care and specialised treatment for individuals with severe neurological conditions, such as ALS and MS.



## MCAST HYDRATION EVENT PROMOTES WELLNESS AND AWARENESS

MCAST, in collaboration with the Institute of Applied Sciences, organized a Hydration event on its campus in Paola.

The event, spanning over three days, aimed to disseminate information regarding the significance and advantages of proper hydration for the human body. MCAST lecturers and students enrolled in science courses took charge of

organizing and actively participating in the event. Through open discussions, attendees engaged in promoting awareness and imparting knowledge on the importance of good hydration. Additionally, hydration assessments were conducted, encouraging individuals to enhance their intake of fluids for optimal health.

The event welcomed College staff, students and members of the general public, providing a valuable opportunity for participating students. They were able to offer guidance, partake in knowledge-sharing sessions, and gain insights into the industry.

Sample refreshments were provided throughout the event. Funds raised through this initiative were allocated to the MCAST student fund, supporting various student needs and initiatives.



# INNOVATIVE APPROACHES TO CHANGE INSTITUTIONAL CULTURES IN HIGHER EDUCATION: MCAST'S INCLUSIPHE PROJECT AT THE VOICES CONFERENCE

by Heathcliff Schembri, *InclusiPHE Project Coordinator*

In a world where the cries for gender equality grow louder and the quest for innovation becomes more urgent, MCAST's recent involvement in the VOICES conference in Tirana, Albania, stands as a beacon of hope and a testament to the institution's commitment to social change and creative solutions.

The conference, organized by VOICES, which is a COST Action devoted to addressing the gender disparities faced by young researchers and innovators, focused on the pressing issue of gender-based violence in higher education. Held at the Mediterranean University of Albania on February 15-16, 2024, it aimed to amplify the voices of the young and the marginalized and to challenge the deep-seated biases that pervade academic institutions.

The VOICES initiative recognizes that despite strides in educational reforms, the European research ecosystem still harbors inequalities that disproportionately affect women and intersect with other social determinants such as ethnicity, socioeconomic status, sexuality, and ability. These inequalities are not just remnants of a bygone era but are perpetuated by contemporary structures and cultures, which the conference sought to address head-on.

Against this backdrop, I presented MCAST's Erasmus+ InclusiPHE project, an embodiment of the college's innovative

approach to fostering inclusive engagement within higher education. The project, spanning from 2020 to 2023, set out to reform policies, mechanisms, and practices to better serve students who may not fit the conventional student profile due to various personal and societal factors.

The presentation delved into the project's vision to create an inclusive environment at higher educational institutions. It emphasized the belief that every student, regardless of background and circumstances, deserves to be fully engaged in all facets of academic and student life, including institutional decision-making. The 7 outputs of the project, including an institution self-assessment tool and an online training course, were also presented.

InclusiPHE's mission is particularly innovative and creative in its approach to inclusivity. By refusing to accept the status quo, the project crafts new pathways for students who have historically been sidelined. It employs creative methodologies to integrate these individuals while ensuring that their perspectives and voices contribute to a richer, more diverse academic experience.

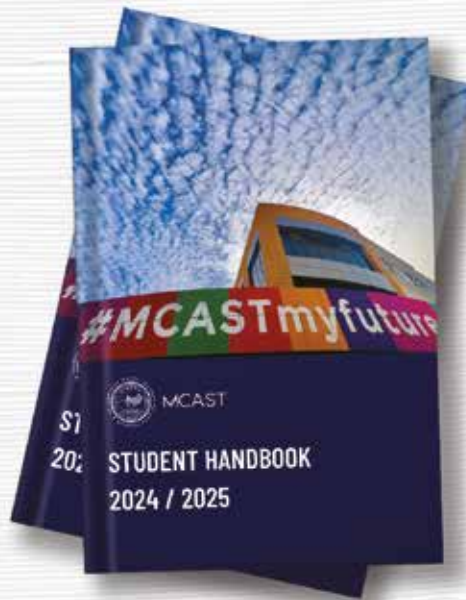
MCAST's role in this international dialogue underscores its position as an innovative leader, not only in pedagogical practices but in its holistic approach to education that prioritizes safety, equality, and inclusion. By participating in such critical conversations and presenting forward-thinking projects like InclusiPHE, MCAST is taking tangible steps towards changing institutional cultures in higher education.

The work showcased at the VOICES conference is an illustration of how innovation and creativity can extend beyond technological advancements and enter the worlds of social reform and educational policies. More information can be found at [www.inclusiphe.eu](http://www.inclusiphe.eu) and <https://gendervoices.eu/>





# DOWNLOAD OUR STUDENT HANDBOOK 2024 / 2025



**MCAST**

Cover Painting by  
Violeta Toncheva  
'Liquid Ambitions of the Past'  
Bachelor of Arts (Honours) in Fine Art.

[mcast.edu.mt](http://mcast.edu.mt)

 MCASTmt

 MCASTmt

 MCAST Malta

 MCASTmt

 MCAST