

ISSUE 67

# MCAST's Pursuit of Excellence

M C A S T   L I N K

New  
Legal Act  
for MCAST

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# Editorial

## **STRIVING FOR EXCELLENCE – A CHRONICLE OF ACHIEVEMENTS AT MCAST**

Welcome to the 67th edition of our College magazine, MCASTlink. In this edition, we embark on a journey to celebrate the multifaceted dimensions of excellence within our College.

Excellence at our College transcends academic boundaries; it extends to remarkable student achievements in both local and international competitions, showcasing outstanding abilities and dedication. The College takes pride in highlighting student accomplishments, notably in competitions like the First Global and Code.Spirit Competitions. Their achievements reflect not only technical proficiency but also innovative thinking, problem-solving skills, and a collaborative spirit.

The pursuit of excellence takes a dynamic form through our dedicated Research and Innovation Department at MCAST. A team of passionate researchers and innovators is committed to pushing the boundaries of knowledge on climate-related research and sustainability while also serving as a hub for collaboration through actively seeking partnerships with other organizations.

This edition underscores the College's commitment to data-driven decision-making, shedding light on its reliance on data for informed choices and policy recommendations. The article by Dr Francesca Ruisi emphasizes the pivotal role of data in shaping strategies and contributing to meaningful advancements across various fields at the College.

Our College is adorned with artistic expression, exemplified by our recent achievement in winning the prestigious award for the best project in the community at the sixth edition of the Premju Għall-Arti.

MCAST's commitment to excellence also extends into the realm of sports education, where we proudly showcase not only our state-of-the-art sports facilities but also the invaluable contributions of our dedicated coaching staff. Other MCAST departments and their pursuit for excellence are also showcased in this edition.

Thank you for being an integral part of our journey towards excellence!

# Message from the Principal & CEO

**PROFESSOR JOACHIM  
JAMES CALLEJA**



## The Pursuit of Excellence!

A College, which is a further and higher education institution, requires a vision to be in pursuit of excellence. In 2019, a vision for MCAST took the College to several reforms in good governance, the quality of education and training and a new approach in engaging industry in work-based learning. In 2021, a new vision was launched covering the period 2022-2027, focusing on establishing MCAST as a community college for all, ensuring inclusivity in our education and training programmes. It also signified that the College opened its doors to the community of learners through formal, informal and non-formal events and activities.

These strategic goals requires a College of excellence at the various levels of teaching, management, infrastructure and governance. The commitment to hands-on, experiential learning, and the integration of sustainable development and innovation into our curriculum are testaments to our pursuit of excellence. The articles in this edition of MCASTlink illustrate that staff are on their way to achieving levels of excellence in various fields from quality assurance, to data analysis, from artificial intelligence to sports education, teaching in Early Years, research, aviation and inclusivity. Each activity tells a story in the pursuit of excellence. Such initiatives are pushing MCAST to new heights, reflecting our commitment to making vocational and professional education and training more attractive.



Our vision extends to ensuring that MCAST not only meets societal standards but also sets standards of excellence. The new infrastructure as well as the constant investment in new educational tools and supplies of materials support excellence and retains students for longer years at the College. The same applies to staff members who find working conditions of very high levels. These different components attract more students to the College and enable those already enrolled to engage themselves more proactively.

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The New MCAST ACT n. XXXII of 2023 further exemplifies our commitment to autonomy and responsibility in managing our resources. MCAST is the first higher education institution in Malta to have its own Act that regulates its operations. This implies that the new Board of Governors has the authority to design and regulate the College in a more expedient manner than before. The overarching objective remains that of attracting more students in post-secondary education to lifelong learning and to vocational trades and professional jobs of high quality. The mixture of education and

training programmes at the various levels of the qualifications framework make it easier for students of all ages to join the College.

We are now focused on re-establishing trades as a respected profession, recognising their increasing demand and importance in our society. MCAST is embarking on an ambitious programme to position trades as an attractive learning and working opportunity. Our goal is to restore dignity and prestige to practical, hands-on work, aligning with our vision of a community college that values all forms of learning. In pursuit of this level of excellence in the teaching of modern trades, MCAST has already embarked on detailed plans and the prospect of welcoming the first students in 2025.





# Excellence

# MCAST's Quest for Excellence:

**A CONVERSATION WITH THE DEPUTY PRINCIPAL FOR QUALITY ASSURANCE, STUDENT ACADEMIC MANAGEMENT, AND WORK-BASED LEARNING  
BY ALEXANDRA ALDEN**

Ing. Pierre Dalmas

MCAST's journey of growth and excellence as a leading further and higher vocational education institution in the field of Arts, Science, and Technology Education in Malta has been accompanied by a continual focus on achieving vocational excellence. In this conversation with Ing. Pierre Dalmas, the Deputy Principal overseeing Quality Assurance, Student Academic Management, and Work-Based Learning at MCAST, he provides valuable insights into what sets MCAST apart from other educational institutions and how they consistently thrive in the educational sector.

When an institution like the Malta College of Arts, Science, and Technology (MCAST) consistently receives positive examiner reports, it serves as evidence of their steadfast dedication to providing quality education.

## **MCAST'S UNIQUE POSITION MCAST**

Malta's leading vocational education and training institution stands as a self-accrediting establishment in the country, standing alongside the University of Malta and the Institute of Tourism Studies. Their





status as a self-accrediting institution is a testament to their commitment to upholding rigorous educational standards. As Ing. Pierre Dalmas, the Deputy Principal responsible for Quality Assurance, Student Academic Management and Work-Based Learning at MCAST, points out, “We provide a comprehensive educational landscape, offering courses across all European Qualifications Framework (EQF) levels, ranging from levels 1 to 7 (equivalent to a master’s degree), and more recently, we have expanded into the doctoral level (level 8).” He continues, “MCAST’s breadth is equally notable, spanning a wide spectrum of disciplines.” This diversity underscores MCAST’s commitment to providing education across a broad range of fields, with the exception of catering and tourism. It is important to note that, while they may not offer programmes in these specific areas, MCAST excels in offering specialized programmes, including those in the regulated fields of aviation and maritime. This versatility contributes to their status as a distinguished educational institution in Malta.

### **A DEDICATED QUALITY MANAGEMENT SYSTEM**

What sets MCAST apart is its quality management system which is deeply integrated into its function and supports pedagogy at various EQF levels. External peer reviews are essential in this process. “We have a commitment to host annual external peer reviewers,” Ing. Dalmas explains. “These reviewers, numbering 15-18 from different countries around Europe, play a vital role in assessing our teaching, learning, and assessment processes.” One of the distinctive aspects of MCAST is its commitment to

continuous improvement. “They oversee the internal processes and dissertations of our bachelor’s and master’s students,” says Ing. Dalmas. These peer reviewers are independent individuals, distinguished and experienced academics themselves, who benchmark MCAST’s students against their own. This annual calibration process ensures that the final dissertations are at a comparable level to their counterparts in other European institutes. A noteworthy result of this rigorous evaluation is that MCAST students often excel in English proficiency, when compared to other European institutions, and in the quality of their research. Ing. Dalmas shares a specific case from the Institute of Creative Arts, where a fashion and design professor from Italy praised MCAST students’ outstanding work. Research work in Creative Arts and Engineering, in particular, has consistently excelled. Ing. Dalmas continues, “Students here engage in real-world applications and produce artifacts and projects of remarkable quality. The quality of work is so high that students are invited to apply for international master’s programmes by the same external peer reviewers visiting MCAST.”

### **PERSONAL COMMITMENT TO EXCELLENCE**

While MCAST’s commitment to academic excellence is institutional, it is also deeply personal for Ing. Dalmas. He shares, “You cannot be a good quality manager looking at the glass half-full all the time, or nothing will improve. I am often the harshest critic internally, but I truly believe that MCAST is doing great things”

His leadership style reflects a genuine passion for education and a drive to make things better. “One of the most satisfying

moments,” Ing. Dalmas says, “is when there is growth in a student, especially those who were initially struggling. No student is turned away from MCAST, even if they have social or economic problems. Our inclusive approach makes us different from other institutions, which often have restrictive entry requirements. A good 20% of students who start their academic journey at MCAST at EQF Level 2 and 3 graduate at MCAST with a bachelor’s qualification. These are our, MCAST’s proudest moments.”

In line with their commitment to student well-being, MCAST offers support for all students. However, Ing. Dalmas acknowledges that there are unique challenges, and sometimes, supporting resources are not enough. The key is to remain accessible to students and provide opportunities for growth.

## CHALLENGES AND THE ROAD AHEAD

MCAST faces challenges, particularly concerning vocational education. “We need to strengthen our partnerships with industry, and we are actively working on offering better mentoring and higher quality apprenticeships,” Ing. Dalmas emphasizes. “We want the industry to continue to believe in MCAST and invest in our students’ learning.” Furthermore, the need to align with industry standards while promoting academic excellence remains a balancing act. “We sometimes set the bar too high,” he admits, “and while being cautious is good, it is essential to strike the right balance.” Looking ahead, MCAST has a strategic plan in place, documented up to 2027. With over 10,000 full-time and part-time local and international students, they continue to grow and evolve. One of the key focuses is to enhance teaching, learning, and assessment



through work-based learning components.

Ing. Dalmas shares, “In continental Europe, there is a stronger emphasis on work-based learning as part of the curriculum. We must integrate this better in our curriculum structure and ensure high-quality apprenticeships and real-world experience.” Ing. Dalmas is excited about MCAST’s participation in the EU4Dual Alliance initiative, which promotes dual learning for adult learners, a blend of theory and experience that aligns with European priorities.

### EXTERNAL EXAMINER’S PERSPECTIVES

Diving into some of the peer reviews of MCAST’s students, the standard at which the peer reviewers regard the students is evident, and expectations are consistently met. The courses are described as rich, stimulating, and flexible, indicating the programme’s commitment to offering a diverse and engaging curriculum. Another examiner senses a new impetus and forward-looking perspective among students. Some students are exploring entirely new creative ideas and fresh perspectives. This innovative approach signals exciting possibilities for original ideas and expressions in the future among students. Students’ work often reflects connections to Maltese tradition, adding a unique dimension to their art. This connection to Malta’s culture and heritage is viewed as a valuable aspect, presenting the opportunity to represent the Maltese viewpoint to the international art market. MCAST’s success in maintaining positive examiner reports is a testament to its dedication to quality education, its commitment to student growth, and

its readiness to adapt and evolve. The external examiners’ reports are integral to the management review process, and key learning points from these reviews are regularly communicated to academic staff and student researchers. As Ing. Dalmas and his team continue to push the boundaries of excellence, the future for MCAST shines bright on the horizon.



# MCAST's Excellence in Nurturing Climate-Related Research and Innovation Initiatives



**BY ALEXANDRA ALDEN**

**AN EXCLUSIVE INTERVIEW WITH  
DR LORNA BONNICI WEST,  
DIRECTOR OF RESEARCH AND  
INNOVATION, AND GONCA KARA,  
SENIOR RESEARCH OFFICER**

As climate change continues to shape our world, MCAST has emerged as the prominent organization in Malta participating in climate-related research. In this interview with Lorna Bonnici West, Director of Research and Innovation, accompanied by Gonca Kara, Senior Research Officer, we explore MCAST's significant contributions to this crucial field.

## **PROMINENTLY ENGAGED IN CLIMATE RESEARCH**

Speaking to Lorna Bonnici West regarding work related to climate research at MCAST, led or supported by the Applied Research and Innovation Centre, it becomes apparent that MCAST's mission is clear: to champion and nurture new ideas, both internally and externally funded, driven by academics' curiosity.

MCAST's climate-related research extends to a range of projects across different institutes.

These encompass topics like sustainable water irrigation and supply for agriculture, a framework to cope with droughts under Mediterranean climate change conditions, technological services monitoring climate change and bio-adaptation, nature-based solutions, and information and communications technology applications such as satellite imagery for land registry. Robotic ventures, exploring the health of marine environments, are also underway, reflecting the institution's commitment to pushing the boundaries of today's knowledge.

### **EUROPEAN INITIATIVES AND PARTNERSHIPS**

MCAST's engagement is not confined to local boundaries. They play pivotal roles in three innovation committees co-funded under the European Institute of Innovation and Technology (EIT). These committees prioritize climate knowledge and innovation, with an emphasis on educational and entrepreneurship programmes.

One of these initiatives, Young Innovators, adopts a "train-the-trainers" strategy to incorporate systems thinking and essential problem-solving skills into secondary education and colleges. This equips the younger generation with environmentally conscious and entrepreneurial abilities, aiming for them to eventually embrace carbon-neutral lifestyles. MCAST also runs an international climate innovation cleantech accelerator programme, nurturing a number of start-ups each year. The primary objective is to bolster sustainable and clean technology start-ups, fostering concrete and quantifiable contributions to addressing climate change through both mitigation

and adaptation efforts.

### **A COMMITMENT TO SUSTAINABILITY**

MCAST understands the importance of addressing the local and European community and are actively engaged in projects aimed at improving sustainability. These initiatives are backed by both national and European funding, reinforcing MCAST's commitment to address national needs and the European Commission's goals. Additionally, they are a driving force behind the Mediterranean Island Cleantech Innovation Ecosystem (MICIE) project, funded through Horizon Europe, in collaboration with Cyprus. As small islands sharing similar characteristics and innovation challenges, Cyprus and Malta aim to leverage their past efforts and collaborate with EIT Climate-KIC, Europe's leading climate innovation initiative, to create interconnected and inclusive innovation ecosystems. These efforts will help them bridge the innovation gap and meet energy and climate targets outlined in the National Energy and Climate Plans.

### **MEASURING IMPACT**

While some projects are capacity-building in nature, MCAST is unwavering in its pursuit of tangible outcomes. The projects contribute significantly to society, particularly in terms of knowledge dissemination. Empowering women in agrifood and engaging citizens in developing healthy food systems are examples of projects that extend to various social issues linked with climate change.

Students and respective institutes play a vital role in MCAST's research activities. They



are integral to the climate-related projects, bringing fresh perspectives, innovation, and determination to drive these initiatives forward.

### **FUTURE DIRECTIONS AND ONGOING EXCELLENCE**

Looking ahead, MCAST plans to further strengthen its reputation in climate-related research and sustainability. They are committed to fostering excellence through innovative research methods and partnerships and have already received international recognition, exemplified by the Triple E Award, which is the European award on entrepreneurship and engagement excellence in higher education.

For students and researchers interested in a career in climate-related research, MCAST provides an inspiring example. To get involved with their research initiatives, consider collaboration, networking, and exploring potential research partnerships with the institution.

As MCAST continues to prominently engage in climate-related research and innovation initiatives, it serves as a testament to the power of knowledge, innovation, and collective effort in addressing one of the most pressing challenges of our time.



# Data Analysis for Educational Excellence:

## **A FUNDAMENTAL TOOLBOX FOR DECISION-MAKING AND POLICY RECOMMENDATIONS BY FRANCESCA RUISI, MANAGER – DATA ANALYSIS**

Sometimes, complex phenomena require simple explanations. Back in the XVIII century, those scholars who first started to launch the golden era of social sciences approached the problem of finding solutions in managing the complex public administration underlying still niched European national states. In doing this, they started to debate on the best method to adopt in order to ensure validity and reliability of findings in explaining social phenomena. Some decades later, inspired by the Positivist celebration of science, the same scholars borrowed the scientific method for studying social behaviours, and they borrowed it from Mathematics and Physics—back then, considered the king and queen of sciences. The ambitious attempt was to disentangle and analyse complex social phenomena and reduce them in key quantifiable indicators which would be able to provide an understandable explanation of social phenomena as a whole and, consequently, find solutions for successful and efficient public administration management.

Although centuries have passed, the issue

did not change. For this reason, research and analysis can be considered an asset for wiser decisions and efficient management. It is with this spirit then that data analysis at MCAST is carried out and fully promoted in line with its strategic objectives and mission. At MCAST, data analysis is relevant at multiple levels. Spreading a culture of data analysis is a lesson that MCAST actively promotes both internally—when it comes to institutional self-awareness—and externally every time stakeholders require specific information on MCAST.

Data analysis plays a key role in achieving MCAST's multiple strategic objectives. One of these is to provide support and reinforce the management and governance structure which is part of MCAST's Strategic Plan 2022-2027. Adopting core references key quantifiable indicators for internal decision-making in relation to stakeholders' demand, agendas, and visions is a core-part of the MCAST mission. This is also in line with the initiative to consolidate the business model through closer alignment with strategy, planning, evaluation, accountability, and measurement. These are part of the MCAST Strategic Plan 2022-2027, together with the initiative to establish a data governance programme, for continuous improvement of data management.

Data analysis at MCAST contributes to the achievement of further strategic goals. Data analysis can reveal what is still not known; then, potentially, allowing to build new indicators that can be further worthy of consideration for internal decision-making and/or in relation to external stakeholders. In parallel, such knowledge can reinforce research and policy agenda settings in Data analysis for Educational Excellence:

addressing issues which might serve local and international communities and may be relevant to people's lives. Furthermore, data analysis expands continuous research questions that might be discovered to be highly needed both for internal decision-making and also external, both at national and international levels.

Just to give a more practical example, MCAST reports data and statistics and data analysis on a regular basis, both internally and externally. In both cases, data reporting addresses key actors whose aim is to produce research-based decisions and policies at all levels. In line with this principle, MCAST actively contributes to feed EU policies (i.e., VET students monitoring), meet national public bodies' need of research and knowledge on strategic topics, and sustain private sector focus on graduates. Regular reporting is also aimed at informing the NSO on key educational statistics such as registered and graduated students on a yearly basis.

In addition, the mapping of students' applications, registrations, and resignations is regularly implemented. This keeps stakeholders and key concerned parties updated on any trends. An example of this might be the mapping of students' residence localities which can support decision makers when it comes to encourage sustainable and inclusive mobility for prospective or current students or to target interventions on areas where educational drop-outs might appear higher as per conducted analysis. As a result, synergies with key stakeholders and coordination among all the concerned public and public actors show all their relevance in cases like this; namely, when a decision could not be taken blindly but









when, instead, underlying research was highly necessary.

Wise decision-making relies on precise data analysis, research, and continuous quantifiable monitoring of key indicators which, however, should never be considered definite and fixed, considering that new phenomena might always emerge.

In addition, MCAST always promotes a culture of institutional self-awareness which defines the right path to reflect and measure its own institutional performance with the aim to ensure an always more inclusive, efficient, and targeted education. Considering the public mandate of MCAST, data analysis and provision at this College are always guided by principles of accountability and transparency of public institutions. In this sense, contribution to parliamentary questions, ministerial queries, and internal and external on-demand statistical results is constant and encouraged also for those parties where the culture of data analysis might be niched. This then promotes a fruitful loop where synergies among educational institutions, public entities, and the private sector can then ensure closer cooperation and precious synergies in supporting an always close-to-reality, hands-on educational experience for learners.

Furthermore, that need to scientifically know, explain, and understand allows MCAST to anticipate and, consequently, mitigate risks and act on related preventive measures. This is, for example, the case in MCAST students' retention. In fact, retaining students and preventing them from dropping out represent a core-issue of MCAST's mission. In this regard, in the

last year, MCAST paid higher attention on analysing student dropouts with the aim to implement policies aimed at reducing educational withdrawal, increasing retentions at all levels, and supporting learners in their previous, occurring, and post-educational experience. Data analysis, therefore, plays a key role in consistently monitoring and understanding when alarming situations should be flagged, with the scope of anticipating scenarios and adopting preventive measures.

**If knowledge is  
wisdom, data analysis  
is the tool for wiser  
decision-making.**



## Profile of Excellence at MCAST:

**DR ING. DARREN MIFSUD  
– ENGINEER, SENIOR  
LECTURER AT MCAST, AND  
VISITING RESEARCHER AND  
TECHNOLOGIST AT CRANFIELD  
UNIVERSITY UK**

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Dr Ing. Darren Mifsud (PhD, MSc, BEng (Hons) and AMIMEchE) is an Engineer by profession; an MCAST Senior Lecturer; a Cranfield University Visiting Researcher and Lecturer; a Technologist and Inventor of a Novel Artificial Lift Technology; and an Independent Engineering Consultant.

He is an ambitious engineer with a doctorate in Fluid Mechanics and Multiphase Flow Systems from Cranfield University. His journey at MCAST started back in 2019, where four years later, he graduated with a first-class honours Bachelor's Degree in Mechanical Engineering (Plant). Following his successful journey at MCAST, he then moved to the UK where he completed an MSc course in Process Systems Engineering from Cranfield University, and four years later, a doctorate (PhD) in Fluid Mechanics and Multiphase Flow Systems from Cranfield University. During his term in the UK, he had the opportunity to gain work experience from strategic oil and gas consultancy and energy production companies, such as British Petroleum (BP) and Petrofac.

As noted above, he studied and graduated with a BEng (Hons) in Mechanical Engineering Degree from MCAST. During this time of study, he was awarded a highly commended certificate by the international awarding body Edexcel London; recognizing the first Maltese MCAST student who obtained distinctive results in his course leading to the MCAST-Btec Higher National Diploma in Mechanical Engineering. Later, he was also awarded a certificate of recognition by the Minister of Economy and Small Business for contributing ideas leading to the best business plan and strongest entrepreneurial skills. On completion of the

degree course, Dr Ing. Mifsud was awarded as the best BEng (Hons) overall student in the Mechanical Engineering (Plant) Course – Institute of Mechanical Engineering MCAST 2010-2014.

His doctoral work comprised a multitude of research topics, mainly specializing in the development of Multiphase Surface Jet Pump Technology (SJP), particularly for applications in the oil and gas sectors and renewable energy applications. His work explored novel conceptual design ideas and performed testing and validation via a series of dedicated computational fluid dynamics software's, numerical methods, and lab-based experimental work. His findings contributed knowledge to phenomena attributed to the performance degradation of multiphase surface jet pumps (SJPs) when operated under transient multiphase flow conditions.

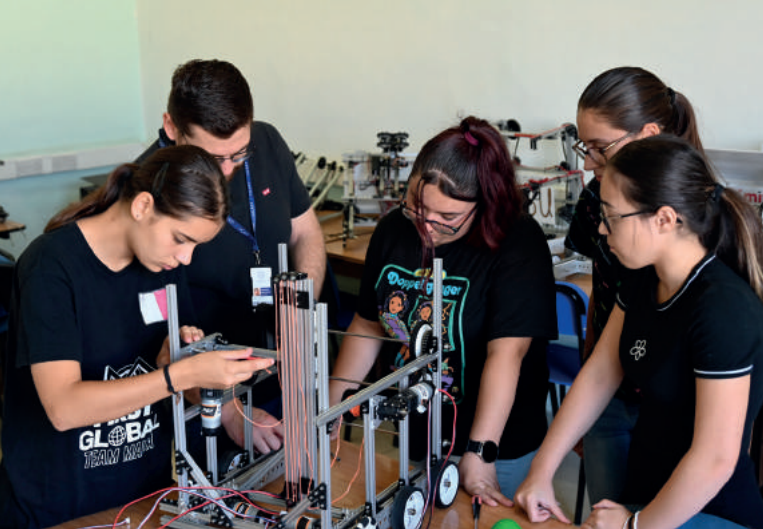
Currently, besides his workload at MCAST—namely, that of lecturing various core engineering subjects and tutoring several Level 6 end-of degree projects at the Institute of Mechanical Engineering—he is also the lead of a development programme (TRL scale) of a novel artificial lift technology involving ejector technology for providing feasible solutions to enhance production from close-to-depletion oil and gas reservoirs and abating routine flaring from onshore and offshore production facilities. His current work contributes directly towards net zero commitments, particularly offering effective technology solutions to oil and gas producers to reduce their carbon footprint; thereby, contributing to global emissions reductions and helping mitigate climate change.

Dr Ing. Mifsud is also the author of publications that are published in well-regarded international engineering-related journals. He is also an active member in the Society of Petroleum Engineers (SPE), an Associate Member of the Institute of Mechanical Engineers (AMIMEchE), and a professional member in the American Society of Mechanical Engineers (ASME).

His main interests are in: Computational Fluid Mechanics (static and dynamic), Flow Assurance, Renewable Technologies, Petroleum (Oil and Gas) Engineering, Offshore and Ocean Engineering, Process Engineering, and particularly, Technology Management including Technology Strategy.







# Empowering Tomorrow's Innovators:

## **MCAST'S JOURNEY IN INFORMATION AND COMMUNICATION TECHNOLOGY BY ALEXANDRA ALDEN**

In a world increasingly driven by technology and innovation, institutions like MCAST are playing a pivotal role in shaping the future of Information and Communication Technology (ICT).

Speaking with Conrad Vassallo, the Director of the Institute of ICT at MCAST, I had the opportunity to delve into the Institute's remarkable achievements and its commitment to preparing students for success in the ever-evolving world of ICT.

### **NURTURING EXCELLENCE**

A standout highlight in our conversation was the Code.Sprint Competition. This national contest, organized by the Ministry of Education in collaboration with ICE Malta, is open to both secondary and tertiary school students. The competition's aim is to encourage problem-solving and coding skills. "There is no selection process, and anyone can enter," Mr Vassallo explained. MCAST's involvement in the competition has been significant, with two of its students emerging as winners in the open category and in the post-secondary category. They showcased their coding prowess, tackling tasks within a strict timeframe, aligning

with the real-world challenges faced by ICT professionals. This competition, held annually, brings together bright minds in coding and programming and serves as an excellent platform for young talents to hone their skills. 'Code.Sprint', as it is officially named, was launched in 2018. Originally aimed at secondary school computing students, it has now expanded to include post-secondary and open categories, welcoming software developers and IT educators. Participants compete for prizes such as study and mentorship programmes, cash awards, and MQF level-3 accreditation for secondary students. The contest evaluates problem-solving and programming skills in an open-book environment. It aligns with the Ministry for Education's goal of bridging the education-industry gap. Contestants must qualify from the first to the final round, with a boot-camp session for finalists. The top three 'code.sprinters' in each category earn a place in the 'Code.Sprint Hall of Fame' and receive awards.

### **MCAST'S EXPANDING INFLUENCE IN ICT**

MCAST's Institute of ICT, under Mr Vassallo's leadership, has become a driving force in preparing students for success in the ICT field. The Institute is one of the largest within MCAST, with an impressive enrolment of 1,268 students for the 2023/24 academic year. This growth can be attributed to the introduction of the new

Digital Games Development Degree and also the Cyber Security Degree, which has not only attracted progressing students but also students with A-level qualifications. For many, MCAST offers a more practical and hands-on approach to ICT education. The Institute of ICT offers a wide range of courses, degrees, and diplomas related to Software Development, Computer Systems and Networks, Applied Data Science, Cyber Security, iGaming, Creative Computing, and Digital Games Development. Mr Vassallo highlighted that the success of MCAST students in these programmes is a testament to their preparedness for the ICT industry. MCAST's approach to education is known for its hands-on, practical orientation. "Programming is no longer taught on whiteboards; instead, students work in labs, using computers provided by the Institute or their own laptops," Mr Vassallo explained. The apprenticeship scheme is an integral part of degree courses, allowing students to gain real-world experience in the latest technologies.

### **EMPOWERING WOMEN IN ICT**

A significant focus for the Institute of ICT is gender diversity. Mr Vassallo stressed the importance of bridging the gender gap in the ICT industry, citing stereotypes and sexism as obstacles. He emphasized the flexibility and vast job opportunities available in the ICT field and the importance of a gender-balanced workforce. MCAST is actively working to spark interest in STEM (Science, Technology, Engineering, and Mathematics) subjects among female students through school visits and public events, showcasing their work. A striking example of MCAST's efforts to bridge the

gender gap can be found in the field of robotics. Recently, a team of four highly talented female students below the age of 18 showcased their exceptional skills by achieving a remarkable 4th place in the First Global Robotics competition held in Singapore, where they competed against 190 countries. This achievement is a testament to the positive impact of our initiatives, fostering greater accessibility to ICT and encouraging the active participation of students from all genders.

### **A GLIMPSE INTO THE FUTURE**

With a new building on the horizon, the Institute's future holds exciting opportunities. It will expand its event hosting capabilities, including hackathons and game jams, promoting innovation and collaboration. This enriches students' educational experiences and encourages problem-solving skills. Additionally, the enhanced facilities will facilitate increased industry engagement, enabling businesses and professionals to actively participate within the Institute, fostering partnerships and hands-on learning experiences. We also aim to further expand our course offerings to the general public by running summer school programmes for teenagers and courses for adults. The Institute is deeply committed to applied research, and its lecturers consistently publish their findings in the field of emerging technologies such as machine learning, computer vision, VR/AR/ XR, and IoT to name a few. This commitment underscores the Institute's dedication to advancing and continuing its research efforts. In conclusion, MCAST's Institute of ICT is making significant strides in preparing the next generation of ICT professionals.



With a hands-on approach to education, work-based learning, active participation in competitions, and a commitment to gender diversity, the Institute is equipping students with the skills and mindset needed to excel in the dynamic world of ICT. MCAST is not only fostering the ICT experts of tomorrow but also empowering them to lead the industry into a brighter and more inclusive future.







# MCAST's Success at International Robotics Competition

**BY RYAN VELLA, MCAST SENIOR COMMUNICATIONS OFFICER**

Students from MCAST have returned to Malta this week following an impeccable performance and successful participation at the international FIRST Global Robotics Challenge in Singapore. The "Hydrogen Horizons" competition stretched over a 3-day period to raise global awareness about renewable energy.

The team of four students, Anthea Muscat, Julia Muscat, Mirielle Vella, and Nicole Frendo, are following courses at the College's Institute of Information and Communication Technology (IICT). Under the guidance and mentorship of Institute Director Conrad Vassallo and Deputy Director Thomas Gatt, the team represented Malta and MCAST, placing 4th in the playoff games competing against 191 other nations.

These students have shown they can achieve great things in international competition skills in teamwork, problem-solving, and leadership, which will serve them well in their future endeavours. MCAST has consistently strengthened its offer in STEM subjects, emphasizing work-based learning and hands-on learning. It has increased its efforts to ensure international exposure for its staff and students, as competition offers a unique opportunity to learn from their peers,

mentors, and judges and receive feedback on their work. Last year, another MCAST team from the Institute of Engineering and Transport won the IEEE Region 8 Robot Championships.

Director Conrad Vassallo said, "The students gained a huge experience from this competition, skills which will serve them greatly in their future careers, including teamwork, problem solving skills, competitive strategies, obtaining sponsorship deals, programming, and mechatronics. Currently, only 14% of MCAST's ICT Institute students are females. We want to spread the word that the ICT sector offers huge flexibility and opportunities, and it consists of work that all genders can do."

In June 2023, the MCAST student team was registered with FIRST Global and in the following months, the robot kit with parts to assemble the robot was sent to the Institute. The students started assembling the robot during the summer months, regularly holding meetings with their mentors and also sharing their experience with the other teams through social media. Once assembled, the robot was exhibited in diverse local activities, including Science in the City and the Tech Expo.

Deputy Director Thomas Gatt said, "This is a very proud moment for Malta and MCAST. We are immensely proud of our students,



they worked hard to obtain this result internationally. This result clearly shows that MCAST is at par with the international academic community and that our students are well prepared for future challenges in the highly competitive ICT Industry."

During the ranking matches, the MCAST team was grouped with two other countries, and together, they competed against another three countries. A total of 10 ranking matches were held, and the team ranked in 20th place across all other participant countries and qualified for the playoffs. The playoffs consisted of grouping participants into teams of four. The MCAST Malta team was grouped with Moldova, Switzerland, and Cambodia. They competed against other countries in another four matches. The MCAST team ultimately placed 4th in the playoffs, a historical first result for Malta. Mirielle Vella, one of the students, said, "I want to thank MCAST, my lecturers, all the staff at the IICT and sponsors for providing us with this unique opportunity. It was a unique learning experience, and we will always cherish it. The hard work and dedication shown by everyone at the College toward us students is immense."

This year, MCAST's IICT launched two new degrees, in response to industry needs: a BSc in Digital Games Development and a BSc in Cyber Security.

As part of maintaining the expected high-quality standards, MCAST representatives regularly meet with different stakeholders within the industry, conduct market research, and liaise with lecturers to develop courses and study units that are industry-relevant and help all students launch

successful and rewarding careers.

The ICT Institute currently has a total student population of 1,258, following various courses ranging from diplomas to bachelor's degrees.

FIRST Global, GO, PwC, MITA, Tech.mt, and the HSBC Malta Foundation supported the MCAST student team and their participation in the competition.



A person wearing a white protective suit, goggles, and red gloves is using a spray gun to apply paint or a coating to a metal part in a workshop setting. The background shows industrial equipment and a high ceiling.

# Driving Excellence:

## **ADVANCEMENTS AND INNOVATIONS IN MCAST'S AUTOMOTIVE DEPARTMENT IN 2013 - A YEAR OF TRANSFORMATION AND GROWTH BY LONGINO DINGLI, DEPUTY DIRECTOR, AUTOMOTIVE DEPARTMENT AT THE INSTITUTE OF ENGINEERING AND TRANSPORT**

In my capacity as the Deputy Director responsible for the Automotive Department at the Institute of Engineering and Transport at MCAST, I am thrilled to present an overview of the remarkable progress achieved by our Department over the past year. Our steadfast dedication to excellence and innovation has driven significant developments that have not only enhanced the learning experience but have also equipped our students with the latest skills and knowledge in the automotive field.

### **ELECTUDE SUBSCRIPTION: REVOLUTIONIZING LEARNING**

A pivotal initiative in the past year was the introduction of the ELECTUDE subscription for both students and lecturers. This innovative platform promises to be an invaluable asset during our lectures. It offers a dynamic and interactive learning experience, enabling our students to grasp complex automotive concepts with unprecedented ease. Lecturers, too, stand to benefit significantly from this resource, gaining access to comprehensive

teaching materials that will elevate the quality of education imparted in our department.

### **CHAMPIONING ECO-FRIENDLY MOBILITY: EV CHARGER INSTALLATION**

In alignment with the automotive industry's resolute shift towards sustainability, we took a momentous step by installing and commissioning an Electric Vehicle (EV) charger. This charger, equipped with a user-friendly app, facilitates convenient and efficient EV charging at our Automotive section. Our commitment to eco-friendly practices extends beyond electricity, as we have also invested in an EV insulated toolset housed within a mobile trolley. This resource equips our students with the tools necessary for modern automotive maintenance and repair.

### **MODERNIZATION OF WORKSHOPS: ELEVATING OUR FACILITIES**

With the aim of providing our students access to state-of-the-art facilities, we embarked on an extensive series of refurbishment projects. Workshop LB05 has undergone a substantial transformation, including gypsum works and the replacement of outdated equipment. A new car jack has been installed and commissioned, bolstering safety and efficiency in our operations. Simultaneously, we widened the entrance of LB30, our spray-painting preparation area, to accommodate all types of light vehicles, ensuring that students can work comfortably in all weather conditions.

### **UPGRADED TECHNOLOGY: EURO 6 VRT WORKSTATION**

Our commitment to remaining at the forefront of automotive technology led us to upgrade our Vehicle Roadworthiness Testing (VRT) workstation to meet the latest Euro 6 standards. Furthermore, we provided practical training to all our automotive lecturers to ensure they are well-versed in this cutting-edge technology. We are also in advanced discussions with Transport Malta to offer courses leading to VRT Tester certification at MQF Level 4; thus, solidifying our reputation as a centre of excellence in automotive education.

### **PRIORITIZING SAFETY AND INFRASTRUCTURE IMPROVEMENTS**

Ensuring the safety of our students and staff is of paramount importance to us. To this end, we replaced all ceramic wash hand basins in our workshops with stainless steel ones and implemented a hot water system with preset temperatures. A new compressor was acquired, and our existing compressed air system was extended to provide redundancy in our workshops. Maintenance efforts included replacing old joints that occasionally leaked and installing a rolling automatic door to create two distinct chambers within the workshop housing the spray booth.

### **COMMITMENT TO CONTINUOUS LEARNING AND CERTIFICATION**

Our dedication to continuous improvement extends to our educators. A select group of automotive lecturers underwent a comprehensive five-day training programme in Belgium, with partial funding from ERASMUS. This programme covered an extensive array of topics, ranging



from electric vehicle drivetrains to battery management. Additionally, participants received certification in the Belgian L2 EV safety sectorial certification, enriching our department with cutting-edge knowledge and expertise.

### ENHANCED SAFETY MEASURES

To underscore our commitment to safety, new cork boards and holders were installed in all workshops to house Health and Safety logbooks. Appropriate safety signs were also affixed to equipment throughout our workshops, ensuring that safety remains a top priority in every facet of our department's operations.

### PIONEERING THE FUTURE: UPCOMING INITIATIVES IN 2024

As we reflect on the transformative year that has passed, we are excited to offer a glimpse into the promising horizons of 2024. Our commitment to innovation and excellence continues to guide our actions, and we are thrilled to share a few of our plans for the upcoming year. In 2024, the Automotive Department at MCAST is set to unveil a series of initiatives that will shape the future of automotive education and safety. Here is a sneak peek of what lies ahead:

#### EV SAFETY SECTORIAL CERTIFICATION: EMPOWERING LECTURERS AND LOCAL STUDENTS

In 2024, we are taking our dedication to electric vehicle (EV) safety to the next level. We will be providing our lecturers with specialized training, resulting in EV Safety Sectorial Certification in Levels 1 and 3.

This will empower our educators with the knowledge and expertise needed to lead and inspire our students. Furthermore, these courses will be made available locally, broadening the scope of EV safety education and certification in Malta.

### COLLABORATIVE LEARNING: THE TRAILS PROJECT WITH CLEANTECH BULGARIA

MCAST's Automotive Department is proud to announce its collaboration with CLEANTECH Bulgaria as part of the TRAILS project, generously funded by EIT Urban Mobility. This collaboration will yield a series of short courses focused on Electric Vehicles (EVs). Our commitment to staying at the forefront of EV technology and education has led us to formulate courses covering a wide range of topics, including:

- **INTRO TO EV:**  
Providing candidates with the foundational knowledge needed to excel in the world of electric vehicles.
- **SAFE WORKING AND HAZARD MANAGEMENT:**  
Ensuring that safety remains a top priority when working with EVs.
- **TOOLS AND EQUIPMENT IN AN EV WORKSHOP:**  
Equipping candidates with the practical skills needed for EV maintenance and repair.
- **ELECTRICAL AND ELECTRONIC PRINCIPLES:**  
Building a solid understanding of the electrical and electronic systems that power EVs.

- **EV TECHNOLOGY:**  
Delving into the intricacies of EV layouts, cables, components, and their applications within an EV.
- **BATTERIES:**  
Covering the heart of every electric vehicle, the battery systems and their management.
- **EV MOTORS AND CONTROL SYSTEMS:**  
Exploring the mechanics and control systems that drive EVs.
- **EV CHARGING:**  
Understanding the critical infrastructure that supports electric vehicles.

These courses will provide candidates with comprehensive knowledge and skills to excel in the rapidly evolving field of electric mobility.

With these exciting developments on the horizon, the Automotive Department at MCAST is poised to continue its journey of innovation, excellence, and leadership in automotive education. We eagerly anticipate the opportunities and challenges that 2024 will bring and remain committed to empowering the next generation of automotive professionals. Together, we are shaping a brighter and more sustainable future for the automotive industry.

The past year has been a transformative one for the Automotive Department at MCAST. Our investments in technology, infrastructure, and training have positioned us as a leader in automotive education,

offering our students the best possible learning experience and equipping them with the skills required to excel in the ever-evolving automotive industry. We look forward to building on this foundation and continuing our journey of innovation and excellence in the years to come.







# Excellence in Sports



# MCAST's Pivotal Role in Sports Education

**BY JAVIER CARUANA**

In this feature, we had the privilege of sitting down with Mr Josef Mifsud, a Senior Lecturer at MCAST Institute of Community Services, to delve into the Sports Symposium held last February 2023. During our conversation, we explored how MCAST is playing a pivotal role in supporting students pursuing a future in the sports sector.

Looking back to 2022, Mr Josef Mifsud, along with Mr Mauro D'Amato and Mrs Anna Maria Gatt, conceived the idea of organizing a Sports Symposium, an uncommon occurrence on our island. This visionary initiative materialized into a two-day Sports Symposium hosted at the MCAST Main Campus in Paola.

Mr Mifsud emphasized that 2023 has been a significant year for Maltese sports, with Malta hosting the UEFA Under-19's Championship, the Games of the Small States of Europe, resulting in a historic medal tally, and Malta's men's national team hosting both Italy and England for their European Qualifiers clash at Ta' Qali.

The Symposium brought together over 150 participants, representing 40 sports organizations and 20 sports disciplines. It featured three international speakers: Alexandra Doncila, the UEFA Academy's Representative; Raymond Conzemius,

Luxembourg's Sporting Director for the Olympic Committee; and Tom Clift from the University of Birmingham, who delivered a presentation on how Birmingham leveraged the Commonwealth Games to foster a positive legacy.

Mr Mifsud enthusiastically highlighted three key areas discussed during the Sports Symposium:

- The imperative to elevate the discourse around sports.
- The concept of making sports inclusive for all, leading to enhanced sports performance.
- The necessity to challenge the prevailing local mindset, as amateurism has dominated the sports landscape in Malta.

Mr Mifsud stressed that, in order to foster change in the upcoming generation of students and athletes, a reevaluation is required. These key areas were thoughtfully explored with the individuals at the pinnacle of the sporting pyramid, including lecturers, sport managers, coaches, and parents.



Addressing the rising interest in sport courses at MCAST, Mr Mifsud noted that an increasing number of students are pursuing careers as P.E. teachers, sports or fitness coaches, and those working with people with disabilities. Some graduates have even ventured into publishing their own research and dissertations in both local and

international journals.

In response to the question of whether Maltese athletes and sports enthusiasts have a promising future ahead, Mr Mifsud encouraged his students to strive for excellence.







# Fun Fit 5: A Chronicle of Physical Activity and Research Excellence at MCAST

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A pioneering research study took shape within the Institute of Community Services (ICS) at MCAST. At the heart of this study were four ICS lecturers and researchers: Dr Melanie Darmanin, Dr Renzo Kerr-Cumbo, Dr Matthew Muscat Inglott, and Heathcliff Schembri, guided by their Director, Ann Marie Cassar. This research team went on a mission to investigate how, if at all, daily physical activity affected primary school children across three domains: academic, physical, and psychological well-being. This is the story of how MCAST, alongside these researchers, ushered in a new era of physical education and academic achievement through the Fun Fit 5 (FF5) research study. Let's go back to its inception ...

The Fun Fit Football project, led by the Malta Football Association (MFA) and financially supported by UEFA, was established through a memorandum of understanding with the local government. While its primary objective was to promote the sport of football in local primary schools for children aged four to eleven, it also focused on monitoring the children's progress, enabling informed decisions for their continued involvement in the sport. An observed concern during the implementation of the Fun Fit Football was the children's struggle with fundamental skills such as coordination, balance, and

timing. In response, the FF5 project was conceived as a branch of the Inħobb il-Futbol Foundation, spearheaded by Ivan Woods and Mark Gatt on behalf of the Malta Football Association.

This led to the project's development, which entails implementing a forty-five-minute daily physical activity with young children in primary schools in Malta. The name Fun Fit 5 represents the essence of the project, with 'fun' and 'fit' reflecting the approach to physical activity. At the same time, the number '5' signifies its daily implementation from Monday to Friday.

This idea was presented to the four members of the MCAST research team who specialize in Sports (Matthew and Renzo) and Early Years (Heathcliff and Melanie) education. Following the formation of this research team, an open call was issued by the Ministry for Education with the help of Marvin Spiteri, Education Officer for Physical Education, and the three primary schools were selected. The selection was based on a series of criteria, including but not limited to, the geographical area and the size of each primary school. For this research study, six Year 4 classes (8/9-year-old students) participated in a longitudinal study designed over one academic year – three classes

were considered as the treatment group, taking part in the daily physical activity sessions, while another three classes were considered as the control group, not taking part in these sessions. This was done so that a comparative analysis could be executed. Consequently, during the academic year 2022-2023, the FF5 project and research study were executed in tandem to gain a comprehensive understanding of the initiative's nature.

The MFA appointed three coaches to implement the daily physical activities: Nicole Sciberras, Franco Agius, and Philip Attard. These coaches underwent curriculum training provided by the MCAST Research Team, which enabled them to familiarize themselves with the Learning Outcomes Framework and guided them in adopting a cross-curricular approach.



Figure 1. From left to right: Heathcliff Schembri, Dr Melanie Darmanin, Ann Marie Cassar, Dr Matthew Muscat Inglott, Marvin Spiteri, Dr Renzo Kerr-Cumbo, Coach Franco Agius, and Mark Gatt.



The MCAST researchers immersed themselves in an extensive data collection process, employing a mixed-methods approach across three distinct phases. This comprehensive approach was structured within an experimental design framework using various quantitative and qualitative research tools. The first and third phases evaluated the impact of the daily physical activity sessions, both before and after their implementation in the three participating schools. The second phase, however, focused on observing the actual delivery of the FF5. While the first and third phases

encompassed treatment and control groups, the second phase primarily focused on the treatment group.

Now that the FF5 research has come to an end, the MCAST researchers will be presenting their findings. A press conference is scheduled for November 2023, where the results of this comprehensive study will be unveiled. This marks a significant step towards comprehending the potential impact of academic, physical, and well-being of primary school children in Malta.



Figure 2 - The MCAST FF5 research team discussing the gathered data.

# Coaching and Education:

## **MCAST'S AFFILIATIONS BY DR RENZO KERR-CUMBO, SENIOR LECTURER - INSTITUTE OF COMMUNITY SERVICES**

### **COACHING EDUCATION**

Early 2023 saw the close of CoachEd6, an Erasmus+ project which was designed and led by the Sports Department within the Institute of Community Services at MCAST. This project, with a fund of more than €250,000, involved The University of Southern Denmark, Reykjavik University (Iceland), and Mugla Sitki Kocman University (Turkey), together with the International Council for Coaching Excellence as partners. Following the development of four units focusing on Sports Coaching, as the lead partner and as the HEI accrediting the developed units, MCAST has launched a Diploma in Sports Coaching (EQF 6, 24 ECTS).

### **COACHING CONFERENCES**

CoachEd6 closed with an International Coaching Conference which was organized at MCAST and which hosted all the relevant stakeholders, including but not limited to representatives from all the partner countries, and local representatives from Sport Malta, the Authority for Integrity in Maltese Sports, the Maltese Olympic Committee, main higher education institutions, and sports associations, who attended together with a good number of

sports coaches.

## **ICCE SPORT COACHING EUROPE AND MCAST**

On 21 June 2022, the International Council for Coaching Excellence signed a Memorandum of Understanding (MoU) with MCAST to host the Office of Sport Coaching Europe, the European continental office of the ICCE.

The MoU was signed by ICCE General Secretary, Ladislav Petrovic, and MCAST Principal, Professor Joachim James Calleja. This important agreement will support the services of each organization and sport coaching communities locally, in Europe, and internationally.

In April 2023, MCAST, together with the Institute of Community Services, hosted a three-day strategy meeting for the ICCE Sport Coaching Europe. During this strategic meeting, the board updated the mission, vision, and strategies for the 2024-2028 period to best contribute to global coaching development. The current status of programmes was discussed as a foundation for future activities. ICCE aims to complete the revised ICCE Strategic Plan for presentation to the rest of the Board and General Assembly in Singapore in December 2023.

This affiliation between MCAST and ICCE Sport Coaching Europe will provide the perfect networking platform for students







and lecturers while helping them gain an international perspective of coaching.

### **BOARD MEMBER FOR ICCE SPORT COACHING EUROPE AND THE EUROPEAN NETWORK OF SPORT EDUCATION (ENSE)**

Dr Renzo Kerr-Cumbo has been serving as an advisory board member for the ICCE Sport Coaching Europe since April 2023.

Furthermore, this September, Dr Kerr-Cumbo was nominated by ICCE Sport Coaching Europe to represent it and its members in the work of the European Network of Sport Education (ENSE). Following that nomination, Dr Kerr-Cumbo was elected as board member for ENSE.



# EU4Dual Project:

**AN ERASMUS + EUROPEAN  
UNIVERSITIES ALLIANCE  
CONSISTING OF ELEVATING  
VOCATIONAL EDUCATION AT  
MCAST AND BEYOND  
BY ALEXANDRA ALDEN**



Co-funded by the  
Erasmus+ Programme  
of the European Union

In a recent interview with Ing. Louis Aquilina, the Director of the MCAST Erasmus+ Projects and Mobility Office, we gained insights into the EU4Dual Project and its significant impact on vocational education and training at MCAST.

The EU4Dual Project, an Erasmus+ European Universities Alliance consisting of a consortium of nine European professional education institutions, is a groundbreaking initiative aimed at enhancing dual learning opportunities and fostering innovation in vocational education. Here, we delve into the details and outcomes of this project and its alignment with MCAST's commitment to excellence in education.

## THE EU4DUAL PROJECT IN A NUTSHELL

The EU4Dual Project, which officially commenced on January 1st, 2023, is in its first year of operation at MCAST. It is an extensive undertaking, organized into nine distinct work packages. These work packages encompass a wide range of challenges and opportunities, including the creation of a structured framework, the development of dual education components, addressing grand challenges, developing micro-credentials, promoting research and innovation, facilitating mobility through Erasmus+, engaging various stakeholders—including students, researchers, and the industry—developing an IT platform, and ensuring quality assurance at every step of the project. Dual learning, which combines traditional classroom education with practical training within the industry, is gaining prominence in the field of vocational education. MCAST plays a pivotal role in the EU4Dual Project, aligning with

valuable hands-on experience and practical skills. This project underscores the institution's commitment to excellence by promoting a holistic approach to education that meets the needs of the job market.

## **COLLABORATIONS AND LEADERSHIP**

MCAST's ability to foster collaborations with European partners has been instrumental in establishing itself as a leader in vocational education at the European level. The project's consortium involves dedicated partners committed to the growth and development of vocational education. Networking and knowledge sharing have played a crucial role in this endeavour, further strengthening MCAST's position in the field. The EU4Dual Project has introduced innovative practices and approaches at MCAST, benefiting students and the community. By emphasizing practical training and real-world experiences, the institution prepares its students for successful careers, aligning with the ever-evolving job market's demands. The project encourages the sharing of best practices among partners and creates more job opportunities, contributing to vocational education's growth within educational institutions in Malta. While the EU4Dual Project is in its early stages, the commitment of the consortium partners is evident. Deliverables are expected to emerge between the first and second years of the project, promising significant success stories in the near future. This project has the potential to change the landscape of dual education, foster growth in MCAST, and alter the vocational education scenario in Malta.

## **LOOKING TO THE FUTURE**

As MCAST continues to be a beacon of excellence in vocational education, the EU4Dual Project will be integral to its long-term goals. By leveraging the project's outcomes, the institution aims to sustain and enhance its status as a centre of excellence in vocational education, not only at the national but also at the European level. This forward-looking approach will shape the future of vocational education, ensuring students are well-prepared for the dynamic job market.

In conclusion, the EU4Dual Project is a transformative initiative that reflects MCAST's dedication to providing high-quality vocational education and practical training to its students. As the project unfolds, it promises to bring about positive changes in the educational landscape, job market, and the growth of vocational education in Malta and Europe as a whole.





# Bright Pathways to Excellence

## MALTESE SCHOLAR STUDIES AT OHIO STATE AS A FULBRIGHT FELLOW

BY JESSICA BARBOZA, STUDENT INTERN AT OHIO'S STATE SCHOOL OF COMMUNICATION

After a long career in journalism, Rosemarie Calleja, a Maltese journalist and Senior Media lecturer at MCAST, was seeking an opportunity to excel and broaden her understanding of communications across various disciplines. Specifically, she aspired to learn how to conduct interdisciplinary research between political science and communications, a crucial step in further shaping her PhD proposal. She found the



perfect environment to pursue excellence during her time as a Fulbright Fellow with Ohio State's School of Communication during the fall semester of 2022.

Having been interested in Professor Michael Slater's work in "Reinforcing Spiral Model," as well as Professor William "Chip" Eveland's and Professor Kelly Garrett's research on polarization in the media, Calleja reached out to Ohio State with a PhD proposal to study media polarization and applied to the Fulbright Program.

"I wanted to learn more on how to do interdisciplinary research," Calleja said. "I did not have a lot of background on political communication, so I thought: Why not? While I am there, now that I am with the best, because you have got the best professors there."

During Calleja's semester at Ohio State, she took courses that focused on political communication and public opinion.

Calleja said her experience at Ohio State greatly helped her shape her PhD proposal. Specifically, she said Eveland mentored her, helping her focus her studies on affective polarization—a type of polarization where a person believes that their own viewpoints are "right" and opposing viewpoints are "wrong"—and learn the methodology needed to research the topic.

"The thing that I was lacking was new research," Calleja said. "In my country, I did not have the access to study all of that information, so at OSU I was really happy because I could get all of the journals that I needed."

During her time studying as a Fulbright Fellow, Calleja attended seminars with other Fulbright Fellows from all over the world. Calleja also attended the National Communication Association Annual Convention in New Orleans with Ohio State PhD candidates and a conference on climate change organized by the Fulbright Association in Cleveland.

“For me, it was a big deal – meeting all of these researchers and scholars who did a lot of important work,” Calleja said. “Some of them could win the Nobel Prize.”

Aside from her studies, Calleja also enjoyed the atmosphere of Ohio State.

“I had never seen fall. In my country we do not have change of seasons because it is very hot here,” Calleja said. “[At Ohio State], I experienced all of the leaves falling, and it is beautiful. I really loved it.”

Calleja has continued her PhD journey at the University of Malta where she researches whether Maltese partisan media increases or decreases affective polarization. This is a milestone study, as Malta was never previously included in Southern European studies in affective polarization.





# The MCAST Gozo Campus as a VPET Centre of Excellence in Gozo

**BY ING. GODWIN GRECH,  
DIRECTOR**

Ever since its inception, MCAST's mission statement has been to provide vocational professional education that caters to the needs of the individual and the economy. This mission statement has always driven the MCAST Gozo Campus. However, we are committed to go that extra mile to leave a mark on the lives of our students.

## **CULTURE AND ETHOS**

Our mission is not just limited to preparing the individual for employment. We strive to give a holistic formation to our students, giving them vocational knowledge, skills, and competences, but also 21st-century skills such as communication, critical thinking collaboration, teamwork, and self-learning skills – all essential requisites to adapt in a fast-changing world. Above all, we strive to develop our students into responsible and active citizens who can contribute to our society, now and in the future.



## **RELEVANT CURRICULA, WORK-BASED LEARNING, QUALITY ASSURANCE, AND INDUSTRIAL PARTNERS**

MCAST programmes are periodically reviewed through a process involving internal and external consultation with stakeholders to maintain the relevance and validity of our courses. Although our programmes are 'academically owned' by the relevant MCAST institutes in Malta, the Gozo Campus staff are involved in the delivery of the given programmes and are important stakeholders in the internal consultation process that is done as part of the review process.

Courses that are offered at the Gozo Campus fulfil the same quality standards as the same programmes running at the Main Campus. This ensures that we offer the same quality of service to Gozo-based learners on their home soil.

Learning by doing is the main philosophical praxis of professional and vocational education. In fact, this is what primarily distinguishes us from other educational institutions on the island. Our courses are



characterized by a strong focus on learning through hands-on practical experience, achieved through:

- a pedagogy which links study to the world of work, facilitated by our strong links with industry and enterprise
- practical training on campus, as an integral part of our vocational study units
- Work-based learning (WBL)

Most of our programmes have an accredited WBL component, involving an apprenticeship or a work placement, bringing together employers, our staff, and the students in total synergy. In this manner, students are provided with an almost seamless transition into the world of work. In the past years, in line with MCAST's strategic objectives, the MCAST Gozo Campus has reached out to the Gozitan industry and the local business community to secure more work-based learning opportunities for students in Gozo. In particular, we have established a close working collaboration with the Gozo Business Chamber (GBC) as well as the Gozo Regional Development Authority (GRDA).

## TEACHING EXCELLENCE

The MCAST Gozo Campus takes pride in the high profile of its academic staff. Quality lecturers are indeed the backbone of a VPET institution. The majority of our lecturers are in possession of master's degrees or higher qualifications (four have a doctorate), and they are all experts in their respective field/sector. Apart from academic qualifications, many lecturers have worked in industry and

can relate the theoretical knowledge with the practical skills and competences that are so important for the respective sector. Some of our lecturers have also published their research work in the MCAST Journal of Applied Research and external publications of repute.

## THE STUDENT'S EXPERIENCE

The MCAST Gozo Campus strives to provide students with an enjoyable learning experience. To this end, the student's well-being is paramount. We particularly address collective, as well as individual needs that the student might have, including social, emotional, physical, and psychological needs that could represent significant hurdles to the student's own self-fulfilment and success. This is done through our highly dedicated student support structures and staff who leave no stone unturned in supporting students appropriately.

Over the years, we have also endeavoured to provide an enriching learning experience to our students, through the participation in EU programmes. The first MCAST Gozo students to benefit from an industrial work placement overseas goes way back to summer 2004 when a group of IT students took a Leonardo Da Vinci (LdV) industrial placement in Ireland. Since then, several MCAST Gozo students and staff participated in a number of Comenius, Erasmus+ School projects, and Erasmus+ placement mobilities in educational institutions and industrial settings all over Europe.

## STUDENT PERFORMANCE AND SUCCESSES

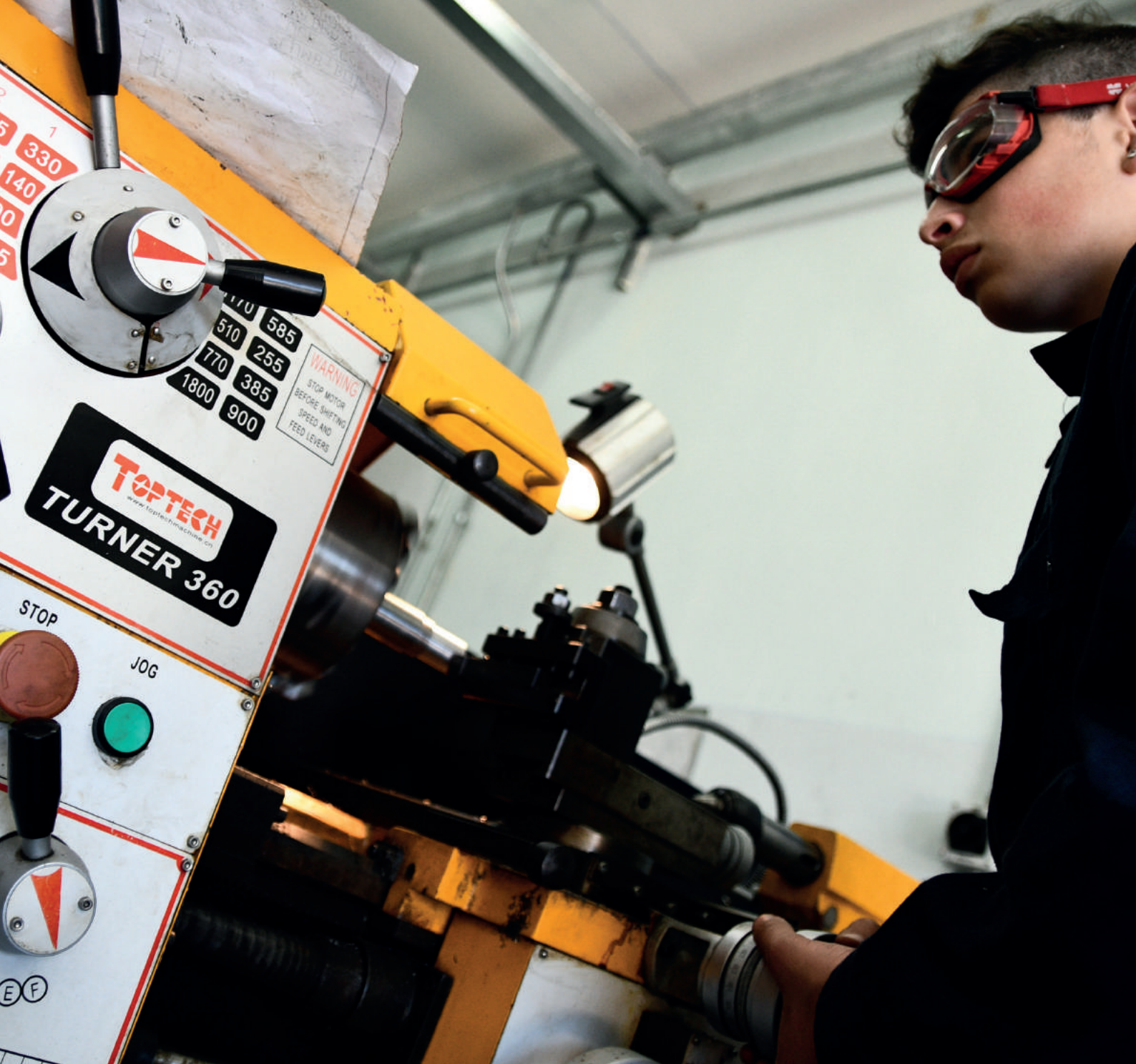
The Gozo Campus takes pride in its high

student retention levels – among the highest across the whole College – as well as in its student success rates. Ultimately, the success of the MCAST Gozo Campus has become synonymous with the successes of our students and alumni. Over the past 21 years, MCAST has left its mark on the lives of countless individual young people who chose our College to further their studies. MCAST has indeed made a difference in the lives of many of these young Gozitans. Choosing MCAST was, in fact, an investment for promising students who today have become entrepreneurs, after conceptualizing and implementing their own business start-ups, going on to employ other people as their business activity expanded.

The Gozo Centre has also made a difference to students who joined without any formal qualifications, individuals often failed by our educational system; MCAST has given them the required skills and competencies to become responsible citizens who are gainfully employed and thereby contributing to our economy and society at large. Most of these students are now employed in sectors related to their area of studies. Some of these students have even made it all the way up to a bachelor's degree.

Undoubtedly, every alumnus has an own story, and MCAST Gozo Centre is proud of its student success stories.







# Nurturing Early Years Excellence: Highlights from the MCAST Early Years Forum

**BY ELIZA CACHIA, ANN MARIE CASSAR, DR MELANIE DARMANIN, CHRISTIANNE GATT FENECH, JOSETTE PULIS, CHRISTINE SCHEMBRI, AND HEATHCLIFF SCHEMBRI, MEMBERS OF STAFF AT THE MCAST INSTITUTE OF COMMUNITY SERVICES**

The inaugural MCAST Early Years Forum, held in May 2023, marked a significant milestone in Early Years education. Planned and delivered by a team of five academics from the Early Years department within the Institute of Community Services (ICS) - Eliza Cachia, Dr Melanie Darmanin, Josette Pulis, Christine Schembri, and Heathcliff Schembri - under the guidance of the ICS Director Ann Marie Cassar and organized by Deputy Director Christianne Gatt Fenech, the event unfolded as a testament to MCAST's commitment to fostering excellence within the Early Years sector. This forum was the first of its kind within the Early Years Department at ICS.

The forum's primary goal was to amplify the voices of the Early Years community members in Malta, specifically those working with children 0-3 years of age. The

forum served as a dynamic platform where academics and practitioners converged to share perspectives on local Early Years practices. A key focal point of discussion was the interface between practice and policy concerning childcare centres in Malta. Representatives from different educational entities were present, including the Ministry for Education, Sports, Youths, Research and Innovation, the University of Malta, the Institute for Education, and local childcare centres. Such a diverse audience led to a networking occasion, and the forum also served as a collaborative opportunity.

## **UNPACKING 'PROFESSIONAL LOVE' IN EARLY CHILDHOOD SETTINGS**

Dr Jools Page, a distinguished Senior Early Years Academic and Doctoral Studies School Lead at the University of Brighton, UK, delivered a keynote speech, delving into the concept of 'Professional Love.' Far from a mere abstraction, this term encapsulates the tangible force that assures young children of the genuine care and affection they receive from their educators.

## EMPOWERING EDUCATORS: THE EMERGENT APPROACH

Christine Schembri and Eliza Cachia presented a session titled 'Connections through Practice: The Emergent Approach.' Their presentation highlighted the pivotal role of childcare educators and the environment in implementing a child-centric curriculum. Attendees were encouraged to share their approaches, fostering an enriching discussion on effective planning and implementation techniques. Christine and Eliza also explained the training approach undertaken by students at MCAST in the Level 4 Advanced Diploma in Children's Care, Learning, and Development, particularly emphasizing effective planning and implementation techniques.

## BUILDING BRIDGES: THE LINK BETWEEN CHILDCARE AND HOME

Dr Melanie Darmanin presented a session titled 'Connection through Communication: The Link between Childcare Centre and Home'. During her presentation, Melanie delineated the findings relevant to her research study, which aimed to examine how stakeholders initiate and perceive communication links within local childcare centres. The presentation particularly emphasized the modes and mediums used within centres, delving into the possibility of metaphorically characterizing these as either a 'rope' or a 'truss' bridge. Additionally, the presentation delved in to the concepts of communication principles, power dynamics, and boundary infringement, all of which



were discussed as significant findings and sparked a meaningful discussion among the attendees.

### **ELEVATING QUALITY THROUGH POLICY AND STANDARDS**

Ann Marie Cassar, Josette Pulis, and Heathcliff Schembri presented a session titled 'Connections through Policy: Elevating Quality'. Ann Marie and Heathcliff delved into two pivotal policy documents: the Early Childhood Education and Care (0-7 years) National Policy Framework for Malta and Gozo and the National Standards for Early Childhood Education and Care (0-3 years). They engaged the audience in a dialogue on the potential mindset shifts necessitated by these transformative policies.

On the other hand, Josette offered reflections on two decades of Early Years impact and her contributions to the Early Years sector. She introduced the session by explaining how she was involved in training child carers over the years. In fact, she was always concerned about the quality of childcare and presented how she collaborated with auditors to ensure quality assurance. During these past 16 years at MCAST, Josette has witnessed growth in the Early Years, and her insights provided a historical perspective on the evolution of childcare practices in Malta.

As the forum drew to a close, the resounding success of this inaugural event left participants eagerly anticipating future editions. This MCAST Early Years Forum, the first of a series, stands as a milestone and a testament to the College's unwavering commitment to excellence in Early Years education.



# A Decade of Transformative Research at MCAST:

## BRIDGING LOCAL AND GLOBAL FRONTIERS IN ENVIRONMENTAL INNOVATION BY ALEXANDRA ALDEN

Mario Balzan, a senior lecturer at MCAST, has been a driving force in elevating the institution's research efforts, both locally and on the international stage. Over the past decade, his work in environmental management and ecology has not only made a significant impact within Malta but has also contributed to global conversations on biodiversity and environmental sustainability.

### A DECADE OF RESEARCH EXCELLENCE

Mario's journey into research began when he returned to MCAST after completing his doctoral degree abroad. He reflects on how the institution has evolved, transitioning from a technical college to a higher educational institution. MCAST today places greater emphasis on specialized skills, research, and innovation.

In the field of environmental research, Mario has dedicated himself to making a difference by bringing together a community of



experienced researchers, lecturers, students, and external stakeholders to co-create new knowledge on biodiversity and human-nature interactions. He describes how, over the years, Malta has become increasingly involved in EU projects focusing on biodiversity and sustainability. He played a pivotal role in introducing top lecturers from abroad to host conferences and give lectures at MCAST, firmly establishing the institution as an integral part of a broader European network.

Balzan mentions, “One key to our success at MCAST has been our willingness to collaborate with scientists from around the world, and our commitment to exploring innovative methods and approaches. This has resulted in outcomes that have reshaped our perspectives on human-nature systems and fostered changes in decision-making

locally.” The work being done at MCAST has led to the publication of research in high-impact journals, including through the participation of undergraduate and postgraduate students. As Malta’s research landscape continues to evolve, MCAST has the potential to become a significant player in fostering innovation in the country.

## LOCAL IMPACT: ADDRESSING COMMUNITY NEEDS

Mario’s expertise in environmental research has allowed him to identify critical gaps in the field locally. He recognizes that, while there have been pockets of excellent research, Malta’s environmental sector lacks systemic innovation. However, Mario also emphasizes the potential of MCAST to play a pivotal role in making Malta an innovative country, particularly in the environmental





sector where the country is facing significant challenges associated with the loss of biodiversity and environmental degradation, climate change, and inequitable access to nature's benefits by communities, and therefore, fresh perspectives are needed. His approach extends beyond research and focuses on making knowledge and innovation accessible to the wider community.

Mario's journey in research and innovation has been marked by his ability to establish connections and collaborations with researchers, institutions, and organizations outside Malta. He understands that innovation thrives on collaboration. As a leader in the environmental sector, he recognizes the need to create a network of stakeholders who are working towards common goals.

In his role, he has trained numerous students and worked on projects centred on societal transformation. Balzan's vision for research extends beyond mere scientific exploration and includes the integration of research into decision-making at higher levels. He sees a need for a new approach to decision-making that combines and embeds social, technological, and environmental innovation in organizations and across society.

## ENVIRONMENTAL JUSTICE AND THE FUTURE

Mario's research is not just about scientific discovery; it is about addressing societal challenges, as it explored topics like environmental justice, mapped projects in the Grand Harbour, and uncovered

disparities in access to local green spaces. Through his work, Mario Balzan is advocating for decision-making that involves stakeholders as partners in influencing the society's future, and where research is considered as key for evidence-based decision-making that brings about positive change, leading to the reversal of environmental degradation and improved well-being of communities. In a world where researchers can often feel disconnected from the needs of society, Balzan's work at MCAST reminds us that excellence in research is also about improving the world we live in, one collaborative project at a time.







Figure 1 - InclusiPHE project partners during a Transnational Project Meeting at MCAST Paola Campus in July 2022.

# Empowering Excellence: InclusiPHE Ignites Inclusivity at MCAST

**BY HEATHCLIFF SCHEMBRI,  
INCLUSIPHE PROJECT  
COORDINATOR**

In the ever-evolving world of higher education, MCAST is pioneering a new frontier of excellence. This article is about the InclusiPHE project, an initiative designed to forge a more inclusive environment within Professional Higher Education Institutions (PHEIs). This initiative enriches academic pursuits and integrates students into their academic community.

InclusiPHE's mission is to reshape policies, mechanisms, and practices within PHEIs, promoting the inclusive engagement of non-traditional students. The vision is clear - a PHE environment where every student, regardless of background or circumstance, is vital to the educational community. The project envisions an ecosystem where students actively participate in learning

processes, decision-making, and the broader spectrum of student life.

In this Erasmus+-funded project, MCAST joined hands with esteemed partners on this journey, including Baden-Wuerttemberg Cooperative State University (DHBW), the European Association of Institutions in Higher Education (EURASHE), the European Students' Union (ESU), the Institute for the Development of Education (IDE), Knowledge Innovation Centre (KIC), Mondragon University (MU), and University Colleges Leuven-Limburg (UCLL).

The project is driven by four key objectives. Firstly, it seeks to understand how students engage with PHEIs, uncovering insights for creating inclusive practices. Secondly, it identifies and promotes innovative approaches to engage a diverse range of students, ensuring inclusivity is a cornerstone of the learning experience. Thirdly, it encourages a culture of student-

led strategies, empowering institutions and student organizations to champion inclusivity. Lastly, the project develops tools to foster inclusive student engagement, ensuring everyone feels a part of the community.

Under this umbrella, a comprehensive suite of resources has been curated:

- Mapping Report: A foundational step, this report, born of extensive research, laid the groundwork for addressing inclusivity challenges in PHE. This provided a roadmap for subsequent tasks.
- Toolkit: A self-assessment toolkit was created, providing the necessary resources and training to cultivate inclusive student engagement.
- Online Course: Designed for student support staff, this course equips them with the tools and knowledge needed for effective, inclusive student engagement.
- Policy Paper: This paper, aimed at policymakers, articulates recommendations for inclusive student engagement in PHE, a crucial guide for institutions navigating the path to inclusivity.
- Resource Library: A treasure trove of resources categorized under five key domains offers a wealth of knowledge on inclusion and diversity, inclusive higher education institutions, student unions, student participation in higher education, and support for inclusive student engagement.

In August 2023, MCAST hosted a Multiplier Event to unveil the journey and accomplishments of the InclusiPHE project. This event was a testament to the project's mission - fostering a more inclusive higher education environment. Engaging participants in dynamic discussions, the event highlighted good practices that promise to reshape the landscape of higher education.

This project is a testament to MCAST's commitment to excellence in education. Through its approach, it is committed to transforming PHEs into authentic, inclusive settings where every student thrives, learns, and leads.

The project was coordinated by Senior Lecturer Heathcliff Schembri in conjunction with the MCAST Erasmus+ Projects and Mobility Office.

For more information about the InclusiPHE project, visit [www.inclusiphe.eu](http://www.inclusiphe.eu)



Figure 2 - The InclusiPHE Multiplier Event at MCAST Paola Campus in August 2023.



# Transcending Labels:

**ANGELA BETTONI'S PURSUIT OF EXCELLENCE AT MCAST BY JULIANA ZAMMIT, MCAST STUDENT READING FOR A BACHELOR OF ARTS IN JOURNALISM**

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For Angela Bettoni, a dedicated Performing Arts student, excellence is not merely an accolade but a personal commitment to achieving one's utmost potential in areas of passion. Bettoni's journey unfolded from a profound love for performing arts, which led her to leverage the opportunities provided by MCAST's advanced diploma after completing an extensive musical theatre programme at SOPA, where she dedicated six formative years. Her pursuit now extends to attaining a Degree in Performing Arts, a course thoughtfully tailored to her specific needs. This programme allowed her the flexibility to select subjects that resonated with her, drawing from Creative Media Production and Journalism.

Reflecting on her time at MCAST, Bettoni expressed a positive experience. Encouraging and supportive lecturers, an inclusive classroom environment, and an enriching social life on campus have significantly contributed to her holistic growth. However, being a performer with a learning disability posed challenges in finding spaces that cater to mixed-ability settings for continued training. Bettoni found solace and growth through participation in the Opening Doors Association, an extracurricular initiative that presented her with numerous invaluable opportunities.

MCAST provides students with the chance to participate in the ERASMUS+ programme, an avenue Bettoni enthusiastically embraced. Her ERASMUS+ experience not only broadened her horizons by offering exposure to another country but also challenged perceptions regarding the capabilities of performers with Down Syndrome. Her tenure at the Hydrama Theatre and Arts



Centre on the Greek island of Hydra was a transformative period. Collaborating with an American actor provided her the space to express herself, share ideas, and further evolve as a performer.

In recent years, Bettoni has delved into the local performing arts scene, becoming an integral part of Malta's pioneering mixed-ability performances. Her journey has led her to collaborate with an Italian dance company, Perypezye Urbane, for an innovative creative project. Beyond her studies, Bettoni wears multiple hats as a writer and advocate. She actively contributes to the ŽiguŽajg festival and co-presents Malta's first docu-series, aimed at nurturing the aspirations of children aspiring to enter the film industry. Her participation in hosting various programmes, including "Action with Brandon Terrible," "Oskar," and the new show "Hej!" showcases her versatility and commitment to breaking societal stereotypes by introducing diverse characters in her books.

Driven by a mission to serve as a role model for children with Down Syndrome, Bettoni continually seeks to challenge societal expectations imposed on individuals with disabilities, influencing not only families but also educators. Her engagements on World Down Syndrome Day—symbolically observed on the twenty-first of March due to the trisomy of chromosome twenty-one—further underscore her dedication to advocacy and awareness.

As she approaches the culmination of her academic journey, Bettoni dedicates her thesis to scrutinizing the representation of people with learning disabilities in Malta's

performing arts landscape. Her research delves into the dearth of opportunities, limited access, and inadequate representation. Her fervent hope is that this research will catalyze positive change in Malta, fostering a more commonplace acceptance and promotion of mixed-ability performances.

Concluding the interview, Bettoni imparted a poignant message, particularly aimed at those with Down Syndrome, emphasizing that individuals are more than the labels society assigns. Her words echo a resounding truth: it is the person who conquers the tallest of mountains that truly matters.

**In Bettoni's unwavering determination and accomplishments, we witness the embodiment of perseverance, breaking barriers, and reshaping societal perceptions. She stands as a beacon of inspiration, urging us to view beyond labels and embrace the vast potential each individual holds.**

# Unlock Your Aviation Dreams at MCAST:

## **A PATH TO EXCELLENCE IN AVIATION MAINTENANCE AND REPAIR**

### **BY LUIGI SGHENDO, MCAST STUDENT READING FOR A BACHELOR'S IN JOURNALISM**

MCAST is where dreams take flight, and the sky's the limit - or is it? As we invite you to explore the captivating world of aviation through Shaun Psaila's remarkable journey, we unveil the boundless possibilities that await those who choose MCAST's aviation courses.

Shaun's story began when he enrolled in MCAST's CATB1.1 Aircraft Maintenance Course, a programme that combines theoretical education with practical workshops. This approach equips students not only with the necessary academic knowledge but also offers hands-on training, a fundamental aspect of MCAST's educational philosophy.

A standout feature of Shaun's journey was the MCAST Apprenticeship Scheme. This innovative approach allocates specific days for students to work at actual MRO (Maintenance, Repair, and Overhaul) facilities. This hands-on experience provides a sneak peek into their future careers, ensuring a seamless transition from education to employment. As Shaun aptly

described it, "This helps a lot as one would already have an idea of what the job pertains after their course ends and begins his/her full-time employment." This unique feature sets MCAST's aviation programmes apart, ensuring our graduates are job-ready from day one.

When Shaun was asked about his choice of employer after completing his studies, his answer was crystal clear: Lufthansa Technik was the natural choice. His decision was based on several compelling reasons.

Firstly, Lufthansa Technik's global reputation as an aviation industry leader was a significant factor. The company's strong professional relationships with numerous airlines are a testament to its exceptional service, providing a stable income for its employees—a crucial factor in the ever-evolving aviation sector.

Furthermore, Shaun recognized Lufthansa Technik's unwavering commitment to investing in its employees. The company is always ready to provide continuous training and support for career growth, a pivotal factor in his decision. Shaun's journey from MCAST to becoming a Level 2 Aircraft Mechanic within the company stands as proof of the boundless opportunities that Lufthansa Technik offers for career development.

When asked whether he would recommend the MCAST course and a career in aviation maintenance and repair, Shaun's response, without hesitation, was "yes." He emphasized the flourishing aviation sector in Malta, teeming with opportunities, especially in the MRO field, thanks to continuous private and public investments which are furthermore providing greater work experience. The work in this sector, according to Shaun, is inherently satisfying, characterized by constant problem-solving and the intrigue of unravelling the intricacies of aircraft.

For aviation enthusiasts like Shaun, the aviation maintenance and repair field is a realm of boundless fascination. As he aptly put it, "it is fascinating to learn in more detail how an aircraft actually works and

functions," highlighting that there is always something new to learn every day.

## YOUR JOURNEY BEGINS HERE

**AT MCAST, WE INVITE YOU TO UNLOCK YOUR AVIATION DREAMS AND EMBARK ON A PATH TO EXCELLENCE. JOIN US IN SHAPING THE FUTURE OF AVIATION MAINTENANCE AND REPAIR—A FUTURE THAT BEGINS WITH YOU. THE SKY'S THE LIMIT - OR IS IT? YOUR JOURNEY AWAITS.**





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# MCAST Graduation Ceremonies 2023

The MCAST Graduation Ceremonies took place between 20th November and 1st December 2023, featuring twenty-six traditions dedicated to celebrating the achievements of that year's MCAST graduates. A total of 2,412 students graduated from the College, representing diverse study areas.

Among the graduates, 528 students received their degrees at Master's and Bachelor's Levels. Additionally, 776 students completed Diplomas at Levels 4 and 5, while another 91 students accomplished Diplomas at Levels 1, 2, and 3.

Minister Grima, addressing the Graduation Ceremony, expressed, "On this day, we celebrated your determination and success. We also acknowledged the efforts of your families, who supported and believed in you throughout your educational journey. I encouraged you to persist in your learning journey, as the pursuit of growth doesn't end with formal qualifications. The world of employment presents new challenges, and flexibility and openness to learning are crucial for your continued success. MCAST plays a vital role in fostering a culture of lifelong learning, providing opportunities for all to pursue personal and professional growth."



Professor Joachim James Calleja, the Principal and CEO, remarked, “We take pride in celebrating the success of students who excelled in various sectors and gained real-world experience during their studies. I urge all new graduates to continue seeking lifelong learning opportunities and to contribute to the College’s mission throughout their professional lives, utilizing the skills and competences they have acquired.”

The graduates hailed from diverse MCAST Institutes, including the Institute of Information and Communication Technology (ICT), the Centre of Agriculture, Aquatics, and Animal Sciences (CAAAS), the Institute of Community Services (ICS), the Institute of Applied Sciences (IAS), the Institute of Creative Arts (ICA) and the Institute of Business, Management, and Commerce (IBMC).





# New Legal Act Ensures a More Autonomous MCAST

MCAST enthusiastically embraces the recently enacted 'MCAST Act,' a pivotal development that endows the College with enhanced autonomy and broader representation from all stakeholders.

MCAST stands as the first local tertiary educational institution to operate under its distinctive legal framework, separate from the overarching Education Act in Malta. This legislation solidifies MCAST's position to thrive as a tertiary-level educational institution committed to delivering equal opportunities to all individuals.

Hon. Clifton Grima, Minister for Education, Sport, Youth, Research and Innovation, said, "This new law for MCAST will help the institution grow and provide more learning opportunities for everyone. It also ensures the delivery of high-quality education at MCAST. The law will give MCAST more autonomy and more responsibilities while providing more resources to develop the skills that our workforce needs today and will be needing in the future."

MCAST Principal and CEO, Professor Joachim James Calleja, stated, "This new legislation sends an important message – that there is a place for everyone at MCAST. This will now become evident in the wide representation throughout all MCAST governing bodies. This year, we experienced a highly positive start to our academic year. We witnessed an



increase in student applications across all MCAST institutes. We will continue working to ensure our students enjoy a positive learning environment and are provided with the necessary training and skills to learn, grow, and thrive in their future careers.”

Through this new legal act, MCAST will be enlarging the Board of Governors to add more value to the strategic orientation of the College while ensuring that the relations between the institution and industry are strengthened to prioritize all forms of work-based learning. Moreover, the act allows for an improvement in the internal structures

of the College, including the definition of titles, the remit, responsibilities, and the composition of internal management structures. Staff and students will be represented on all college governing bodies.

Kunsill Studenti MCAST (KSM) acting President, Ms Rohasia Zammit, explained, “Students need to make their voice heard. I encourage all students to participate in the upcoming Student Council elections actively. Our views and actions matter not only on issues concerning MCAST but wider concerns about where our society is heading.”





# The President of the European Parliament Visits MCAST

The President of the European Parliament, Roberta Metsola, toured the Institute for Engineering and Transport and the Institute for Applied Sciences at MCAST, where she observed the tangible results of EU Funds.

While visiting the new laboratories and lecture halls with MCAST Principal and CEO, Professor Joachim James Calleja, President Metsola reaffirmed the European Parliament's dedication to securing funds



for similar projects. She emphasized that the European Union will persist in its investments in research and innovation.

Over its 22 years as Malta's leading vocational education and training institution, MCAST has benefitted from millions of euros in EU Funds to develop its campus and services

provided to students. Some of the most significant investments co-financed by EU Funds were in the MCAST Resources Centre, inaugurated in February 2022, and the two new laboratories at the Institute of Engineering and Transport.







# MCAST's Freshers Week 2023

In October 2023, MCAST celebrated Student Freshers Days in Paola, Mosta, and the Gozo Campuses

This year, full-time applications have reached 9,593 compared to 8,235 in 2022, a 16% increase overall. Of these, almost 5,000 are new students (Maltese and non-Maltese). International student applications also increased by over 48%, reaching more than a quarter (26%) of all full-time applicant population across all the institutes.

Every institute increased its application intake over 2022, now receiving an average of 1,500 applicants in each institute. A significant increase in applications is evidenced in ICT-related subjects. It is worth mentioning that the rise in the number of female full-time applications in STEM-related institutes was higher compared to the increase of male full-time applicants. Such attraction to MCAST is the result of more than 200 Education and Training full-time programmes and the closer links between formal education and work experiences.

A mix of industry, public service, public sector, and voluntary and non-governmental organizations attracted hundreds of students to ask questions about their future careers, voluntary work, and future studies in Malta and abroad. There were stands representing industry and future jobs from public organizations, the public service and sector, and non-governmental and voluntary organizations.

Stands at Freshers Week represented MCAST's education and training core ethos: work-based learning.

The College provides a balanced approach between formal education through theory and compulsory practice (as apprentices or work placements) and opportunities to support the voluntary sector. Working in voluntary organizations earns students credits for their overall academic transcript and graduation. In the academic year 2022-2023, over 55,000 hours of voluntary work was conducted by MCAST students in the various organizations.

Visits by Prime Minister Robert Abela, the Opposition Leader Bernard Grech, the Minister for Education Clifton Grima, and Ministers Stefan Zrinzo Azzopardi, Byron Camilleri, and Clint Camilleri, as well as several MPs and aspiring MEPs, served to underline the importance the country gives to vocational and professional training and the proliferation of skills that the labour markets need to sustain and grow its services and productivity.

MCAST is an alternative reality of excellence in further and higher education in Malta. It enrolls students from the lower levels of our qualifications framework to a doctoral programme. It reaches out to all students finishing compulsory education. Courses lead to employability in almost all sectors of our growing economy, from aviation to engineering, artificial intelligence and IT, social care, animal care and agribusiness,



finance, accounts and management, nursing, the maritime sector, the creative and performing arts, and the applied sciences such as green, food and chemical technologies, environmental health, and others.

Freshers Week also allowed visitors to view the improved infrastructure and the new building of the Institute for Information Technology and Communication, which will be inaugurated in early 2024. Today,

MCAST's Library opens 12 hours a day every day, and plans are in hand to increase the night hours, including weekends.

**MCAST LIVES ITS NEW STRATEGIC EXPECTATION TO BE A COMMUNITY COLLEGE FOR ALL.**







We welcome young learners and workers for micro-credentials, full qualifications, hobby courses, and, more importantly, upskilling and reskilling. For this purpose, MG2i has played a pivotal role in organizing Freshers Week by attracting industry partners from across and beyond our country. The same level of credit goes to the Community Service Responsibility (CSR) team for mobilizing so many voluntary organizations that attract students to their needs and goals.

This is the community of learning and working that MCAST is creating for Malta. Our next challenge is re-establishing trades as a stepping-stone towards more SMEs restoring a glorious, dying cultural heritage. The College has no barriers in entry requirements, respects diversity, and carries the NCPE Equality Mark!

Through this content, we would like to thank all those who have sponsored and supported Students Freshers Week, the authorities for their unfailing commitment towards the College students and staff members, and the general public, especially parents and guardians, for trusting their young talent in the hands of MCAST's professionals.

We can sustain this growth by inviting employers to support our students' work-based learning through more apprenticeship programmes and work placements. We also welcome the government's continued support in improving the MCAST campus, providing students with the physical learning environment of the 21st century.

MCAST's growth is the island's social and economic success.







# New Collective Agreement Signed Between MCAST and UHM for Administrative Grades

MCAST and the UHM – Voice of the Workers have inked a new collective agreement, ushering in enhanced working conditions. Administrative staff at the College will enjoy an upgraded financial package, improved progression opportunities, and enhanced flexi-time benefits.

MCAST Principal and CEO, Professor Joachim James Calleja, said, “As a college, investing in workers is a priority, from which everyone can enjoy a positive work

environment where each individual can grow and advance in their career. The collaboration with the social partners is crucial both for the welfare of the workers and students, so that they always have the help and support they need.”

The Minister for Education Sport, Youth, Research, and Innovation, Clifton Grima, who presided over the signing of the agreement, said, “We are continuing to invest in the best resource that our country

has – the human resource – and that is why we are continuing to invest in the workers of the education sector directly.”

UHM CEO, Josef Vella, said, “It is a pleasure for us (the UHM) to be able to improve the conditions and the financial package of the workers, and we are also taking this in the context that this is a large institution in our country that is preparing young people, young people who are the only resource this country has to continue building our economic vision. The vision and function of MCAST gives us courage as a union and social partner because in the end we want to see all this in a national context.”

The agreement was signed by UHM Director Mario Sacco, UHM Assistant Director Isabelle Farrugia, MCAST Principal and CEO Professor Joachim James Calleja, and MCAST Deputy Principal Mr Philip Vella.











# Seminar on Key Skills in the Vocational Context

MCAST, in collaboration with The Centre for Learning and Employability (CLE), hosted a seminar for lecturers responsible for teaching key skills units across the College's MQF Level 1, Level 2, and Level 3 programmes.

The seminar featured keynote presentations, workshops, and an open discussion session dedicated to exploring strategies for ensuring the continued relevance and appeal of key skills units within the various vocational programmes at the College. This encompassed discussions on content, pedagogy, and assessments.

Lecturers had the opportunity to put forward their questions and suggestions to management. This event also followed an extensive review of all key skills units carried out in 2022-2023 with feedback from management, coordinators, lecturers, students, and the industry. These revised units, providing more flexibility and contextualization will be introduced in the upcoming academic year.

The College is tackling a persistent issue affecting students following courses between Levels 1 and 3. Industry professionals working with MCAST have voiced concerns about students lacking transversal skills.

For Level 1-3 students, MCAST is promoting a “bottom-up” approach to address the issue, focusing on students and their acquisition of these essential skills. The College is now considering how educators across various professions can make their subjects more relevant and engaging for their students.

MCAST Principal and CEO, Professor Joachim James Calleja, said, “How can we adapt our teaching methods and content to keep students engaged and committed to their

education? Finding professional methods to make these adjustments is paramount in the quest to reduce the dropout rate at Levels 1-3 and ensure students stay on the right educational path.”

MCAST is committed to the success of its students and will continue to explore innovative methodologies and approaches to address this critical issue to make sure all students succeed.

## 63 Students Complete ‘Future Innovators Summer School’ Programme at MCAST

A cohort of 63 students, aged between 13 and 15, participated in the ‘Future Innovators Summer School’ programme hosted this summer at MCAST.

The Future Innovators Summer School is a technologically-themed programme designed to offer students an interactive learning experience with emerging technologies. The course provided a platform for students to explore various topics, including artificial intelligence, coding, blockchain, metaverse, digital innovation, cybersecurity, and 3D printing.

MCAST Principal and CEO, Professor Joachim James Calleja, said that, “a large number of students participated in various activities

on the MCAST campus during the summer, including the Future Innovators Summer School. The goal is to open the facilities and learning to everyone, and that MCAST will continue to be at the forefront in the field of technology in order to offer relevant learning to prepare people for the world of employment. The Institute of Information and Communication Technology (IICT) at MCAST offers several courses which lead to careers in the digital field”.

MDIA CEO, Mr Kenneth Brincat, said that “this initiative was one of several efforts being made to promote emerging technologies. The aim of the ‘Future Innovators Summer School’ was to educate the future generation to be more capable

these technologies through an accredited programme.”

The programme was launched in collaboration between the Maltese Digital Innovation Authority (MDIA), the eSkills Foundation, Tech.mt, and the Ministry for the Economy, European Funds and Lands.







# MCAST 'Teens Summer Camp' a Success

In partnership with MG2i, the commercial arm of the College, MCAST has once again successfully conducted the MCAST Teens Summer Camp for the second consecutive year. This edition saw the active participation of 93 individuals aged between 13 and 16. The Teens Summer Camp provided participants with exposure to diverse educational domains, empowering them to make informed decisions as they navigate their future learning and career paths.

MCAST Deputy Principal for Communications and Business Development, Mr Stephen

Vella, said, "We are delighted with this year's enthusiastic participation. The camp is an opportunity to experience different areas and topics. It is also a chance to discover the MCAST Campus and the various facilities available. Above all, we want young people to make new connections and memories and to reflect on what they enjoy doing and what skills they would like to develop."

Students participated in various activities during the camp, including educational projects, sports days, and teamwork. Courses provided during the programme in woodwork and robotics, events such as treasure hunts and historical visits, and fitness activities were top-rated among participants.

Many of this year's participants said they would recommend others to enrol in next year's summer camp and described the programme as highly creative, fun, and enriching.

The College aims to continue building on the ideas and values of inclusivity and creating a community college for all, which helps to widen opportunities for everyone.



# MCAST Launches Annual Report 2022 – Inspiring Excellence, Empowering Futures

In July 2023, MCAST announced the publication of its Annual Report 2022, shedding light on a year of growth, programme excellence, and a commitment to community engagement, inclusivity, and social responsibility.

The Annual Report offers a comprehensive insight into MCAST's governance structure, showcasing the institution's dedication to transparency and adherence to compliance standards. Providing a comprehensive snapshot of MCAST's stature, the report presents a myriad of figures that depict MCAST's expansion and significance within Malta's education sector.

The report includes highlights of accomplishments that occurred during 2022. From unveiling the cutting-edge MCAST Resource Centre to hosting the esteemed EAIR Forum 2022, the Report showcases the successes across institutes and departments within MCAST. It captures noteworthy events such as the triumphant launch of a stratospheric balloon by MCAST students and their victorious performance in an international robotics competition.

MCAST's deep commitment to inclusivity and diversity shines through with initiatives tailored to support students

from various backgrounds and unique needs. Sustainability takes centre stage, evident in the College's adoption of energy-efficient construction practices, promoting sustainable transportation methods, and integrating sustainable principles.

The Annual Report provides a window into MCAST's dynamic research landscape, spotlighting externally funded projects, academic engagements, and research themes. The College's unwavering dedication to pioneering research to address pressing societal challenges is palpable, underscoring its commitment to driving innovation.

The Annual Report unveils statistics that underscore MCAST's growth and impact. The statistics emphasize gender diversity and the fostering of a multicultural environment.

MCAST's international collaborations, partnerships, and work-based learning initiatives take centre stage, exemplifying the College's dedication to promoting global awareness and offering practical education that aligns seamlessly with industry needs. The report underscores MCAST's holistic approach to learning and employability, spotlighting community



engagement, pastoral care, collaborations with correctional services, and programmes to facilitate smooth student transitions.

The MCAST Annual Report 2022 encapsulates an inspiring journey of progress, inclusivity, and sustainability. MCAST's steadfast commitment to

nurturing talent, embracing diversity, and driving innovation underscores its pivotal role in Malta's educational landscape. As MCAST strides ahead, it continues to shape a brighter future for its students, staff, and the entire nation.





# MCAST Launches New Butchery Skills Course

The Malta College of Arts, Science, and Technology (MCAST) has introduced an innovative course designed for individuals aspiring to pursue a career in the Butchery sector, as well as those already employed within the industry.

With its expanded scope and robust theoretical component, the course is set to replace the in-house training that was traditionally provided at the public abattoir.

MCAST Principal and CEO, Professor Joachim James Calleja, said, “MCAST is being proactive by addressing sectors where skilled workers are needed the most. These sectors include farming, fisheries, and animal sciences. This course will provide opportunities to both those already working within the meat industry and prospects who wish to launch their career within this

industry sector.”

The course encompasses a variety of study units, with a particular emphasis on topics such as meat quality, animal slaughter, carcass cutting, deboning processing, and advanced butchery techniques. Throughout the programme, prospective applicants will also have the chance to engage in a 650-hour work placement, providing essential hands-on industry experience.

This innovative course is one of several initiatives spearheaded by the Ministry of Agriculture, Fisheries, Food and Animal Rights, along with the Ministry of Education, Sport, Youth, Research, and Innovation. These efforts aim to enhance the skill set of the workforce in the butchery industry.

“It is our mission to provide training and

education within every industry sector. Today, MCAST has become a leading tertiary educational institution that provides opportunities to all individuals willing to enhance or develop their careers,” said Minister Clifton Grima.

Minister Anton Refalo explained how “this new MCAST course will expose students to all the necessary skills required, which help ensure that a final high-quality meat product is provided to the final consumer.”

The General Director of the Public Abattoir, Mr Stefan Cachia, said, “The public abattoir must be pro-active in the way it provides

help to secure a sustainable local meat industry. Help should be holistic and provide more things rather than just financial aid. This new course will help in addressing the shortage of workers within the meat industry.”

Moreover, MCAST and the Ministry of Agriculture, Fisheries, Food, and Animal Rights extended an already existing working agreement (MoU) between the two institutions. This working partnership will enhance future collaborations aimed at developing more opportunities to enhance the local economy.





# MCAST Hosts the 2023 IBMC Fexserv Awards

MCAST, together with the Institute of Business Management and Commerce (IBMC), proudly hosted the 2023 IBMC Fexserv Awards at the College's Main Campus in Paola.

The event brought together academic staff and industry partners to celebrate the students' success. Fexserv Fund Services Limited, one of Malta's leading financial services providers, sponsored the award ceremony and presented awards to the winners.

Institute of Business Management and Commerce Director, Mr Andrew Galea, stated that, "these events provide the perfect backdrop for industry players to be intrinsically involved in shaping and mentoring of future generations, whilst also providing invaluable feedback on course content; thus, ensuring that courses at IBMC continue to remain relevant and up-to-date in such an ever-changing world."

The award for the first overall student during this year's award ceremony in the Bachelor of Science (Honours) in Financial Services Management was Ms Bronwen Spiteri, and second overall was awarded to Ms Ylenia Fenech. Ms Nicole Balzan and Ms Tanya Joy De Marco were awarded the first and second overall respectively in the Bachelor of Arts (Honours) in Business Enterprise course. This year, the Principal's Award was awarded

to Mr Aaron Farrugia, a third year Bachelor of Arts (Honours) in Business Enterprise student, in recognition of his indomitable spirit and his positive attitude regarding the challenges he faces daily.

MCAST Principal and CEO, Professor Joachim James Calleja, said "students' dedication and perseverance during their studies and apprenticeships is fundamentally important. These attributes will help them succeed in their future careers."







# MCAST Lecturer Attends AIDAA XXVII International Congress in Padova



MCAST Senior Lecturer, Dr Leonardo Barilaro, attended the AIDAA XXVII International Congress in Padova (Italy). Dr Barilaro's research work was showcased in three papers at the congress, including the paper "Exploring Aerospace Advancements and Global Collaborations: A Comprehensive Analysis of MCAST's Aerospace Programme in Malta."

The paper discussed the progress of MCAST's aerospace programme, which is designed to provide students with the skills and knowledge they need to succeed in the aerospace industry. Moreover, it presented the research developed in collaboration with Professor Joseph Borg of the University of Malta, Dr Mark Wylie of the South East Technical University (SETU) in Ireland, and Dr Lorenzo Olivieri of CISAS – University of Padova (Italy). This paper highlights Malta's and MCAST commitment to and integration with the European space community, setting the stage for the country's imminent participation in ESA's PECS (Plan for European Cooperating States) programme.



Dr Barilaro also had the opportunity to visit the lunar module ExoSpaceHab-x, which was on exhibition at the Botanical Garden of the Università degli Studi di Padova. ExoSpaceHab-x is a prototype of a lunar



habitat that is designed to support human life on the moon. "I am very pleased with the outcome of the congress," said Dr Barilaro. "The opportunity to present my research to an international audience was invaluable. I am confident that the networking established at the congress will help to further the development of MCAST's aerospace programme." The AIDAA XXVII International Congress is the biennial congress of the Associazione Italiana di Aeronautica ed Astronautica (Italian Association of Aeronautics and Astronautics), founded in 1920. The congress brings together an international community of academics and industry professionals to discuss the latest findings in aeronautics

sciences and technologies and had top-level speakers such as Dunay Badirkhanov (vice-chairman of Azer Cosmos) and the legendary first Italian astronaut Franco Malerba.

**The next AIDAA International Congress will be held in 2025.**



# The Central Bank of Malta Governor Addresses Students at MCAST

The Governor of the Central Bank of Malta, Professor Edward Scicluna, recently visited MCAST, where he delivered a presentation to the students of the Institute of Business Management and Commerce (IBMC). During his talk, he elucidated the dual role of the Central Bank of Malta, highlighting its participation in the European System of Central Banks and its national responsibilities. Furthermore, Professor Scicluna engaged with the audience by addressing various questions raised during the session.

The Governor was welcomed by the Principal and CEO of MCAST, Professor Joachim James Calleja. During the visit, Professor Scicluna opened an exhibition entitled 'Coinage in Malta – 2,500-Year History' held at the IBMC foyer. The Governor also presented a commemorative coin to the Institute. In his

comments, Governor Scicluna stated, "It is important that the Central Bank listens to and engages with young people."

The Principal and CEO of MCAST, Professor Joachim James Calleja, also stated that "it is truly a pleasure to welcome Professor Edward Scicluna to MCAST. Professor Scicluna has been a Governor of this College when MCAST was set up in 2000. He supports work-based learning and engages MCAST students at the Central Bank on a regular basis. It is this direct experience in work places that makes MCAST a special place to learn and to work. Many of our students appreciate the opportunity to work and study at the Central Bank. Engaging apprentices is an investment for employers in the private and the public sectors."



# MCAST Delegates Attend Final Interreg Italia-Malta MEN-Excellent Mediterranean Event

Delegates from MCAST participated in the final closing event of the Interreg Italia-Malta MEN-Excellent Mediterranean Net in Sicily on September 14, 2023. The event was organized by the lead partner, the Municipality of Acireale.

At the event, MCAST's Principal and CEO, Professor Joachim James Calleja, signed a Memorandum of Understanding (MOU) with the Mayor of the Municipality of Acireale, Mr Roberto Barbagallo. This agreement aims to ensure the sustainability of the project outcomes for the next five years.

MCAST's Deputy Principal, Mr Philip Vella, was present for this final closing event in Sicily. Professor Calleja gave a key-note message evaluating the outcomes of the project and recommending a follow up to it in which students from Malta and Sicily can work in small clusters to start up SMEs in various sectors, particularly those based on high tech and artificial intelligence. This learning activity could steer the creation of small companies between young people in Malta and in Sicily and, possibly, the creation of more jobs.

With MCAST being the only Maltese partner among the other six Sicilian partners, it played a vital role in the successful completion of the mobility-based project. Mr

Richard Curmi, Director for Events at MCAST, and Ms Anna Privitera, Director for MEN at Municipality of Acireale, were the Project Leaders of MEN. They were supported by other administrative and managerial staff members, making this project a successful enterprise for Sicilian unemployed young people and MCAST future programmes.





# MCAST Participates in the Erasmus+ European Universities Alliance EU4Dual Rectors' Council Meeting

In November 2023, Professor Joachim James Calleja, the Principal and CEO of MCAST, took part in the third Erasmus+ European Universities Alliance EU4Dual Rectors' Council Meeting held in Kecskemét, Hungary.

Professor Dr Tamas Fülöp, Rector of John von Neumann University as host, greeted the other eight Principals and Rectors for

the two-day meeting which reviewed the progress of the Alliance.

During the meeting, the Rectors also reviewed the activities and status of the nine work packages, discussed the consortium Communication Strategy, and agreed on the roadmap for the implementation of the strategic priorities of the Alliance.



# MCAST Principal Chairs EfVET Annual Conference in Rhodes

In October 2023, Professor Joachim James Calleja, the Principal of MCAST and President of EfVET, presided over the Annual Conference of the European Association of Training Providers in Vocational Education and Training in Rhodes, Greece.

Over 350 participants participated in a two-day conference focused on Future Skills for Green Transitions: an agenda for VET. EfVET members representing over 3.5m students in vocational education and training across Europe.

In setting the scene, the EfVET President spoke about the challenges that technology and artificial intelligence are posing on the education sector and how these are opportunities for VET institutions to promote new skills for greener economies. He spoke about the unknown skills that we need to prepare students for; the need to keep abreast with the volume of knowledge that technology can provide in all sectors of employment; the challenge to strike a balance between work and leisure/family time as well as the increasing number of commitments that accumulate every week; the concern that we are witnessing a degrading natural environment due to a heavy consumeristic culture – hence, the need for a return to a greening ethos; and finally, educating young generations using different pedagogies – more work-based learning, less hours and days in a

based learning, less hours and days in formal lecture rooms and classrooms, more teamwork, more projects, less talking, more exchanges and involvement of students across colleges, schools, and universities of applied sciences.

Professor Calleja also delved into the well-being of managers, administrators, and teachers, which is often not on the agenda of VET policy or equality agendas. He said, “We are expected to prepare learners in future skills and a greening economy, but what we witness around us is, on the one hand, an increasing greening mindset among populations (increase in the purchase of electric cars, separation of rubbish, planting of trees, the use of solar energy in E&T institutions, reduction in the use of paper, plastic, and fuel...the list is long), but a slow political will to lead by example and protect the environment. Institutional pressures on VET managers are also increasing to reach these goals but with new work practices that often ignore the need for teamwork.”

The conference had a panel discussion on the future skills and green transitions as well as several breakout sessions and roundtable discussions on the topic.

Participating in the panel discussion were Georgios Zisimos from the European Training Foundation; Carlamaria Tiburtini, Senior HRBP Commercial, Programmes, Finance,

Legal Compliance and Communication of AvioAero/GE Aviation Business, Italy; and Kari Puumalainen, Director of Ylä-Savo Municipal Federation of Education and Principal of Ylä-Savo Vocational College. Among the keynote speakers was the Greek member of Parliament, the Hon. Dr Ioanna Lytrivi, who is also secretary to the Standing Committee of Education in the Greek Parliament. In her

speech, she stressed on the importance of a realistic approach to green transitions through education but also implementing the various declarations of international organizations, including the UN and EU, on climate changes, green transitions, and future skills. Amersfoort in the Netherlands has been chosen as the next venue for the EfVET Annual Conference 2024.

# ASTROBEAT Unveils Revolutionary Cold-Welding Technology for Spacecraft Hull Repair on International Space Station

Advanced Spacecraft Technology for Repairing of Broken External Armor using Cold-Welding Adhesion Treatment.

ASTROBEAT, led by Dr Leonardo Barilaro, Senior Lecturer in Aerospace Engineering at MCAST, is pioneering the use of cold-welding for spacecraft hull repair following hypervelocity impacts by space debris. The groundbreaking project has been approved for testing and qualification at Technology Readiness Level 6 (TRL 6) on the International Space Station (ISS), capitalizing on the vacuum micro-gravity environment that this space station offers.

Cold-welding is the key innovation driving ASTROBEAT. It is the fusion of metallic

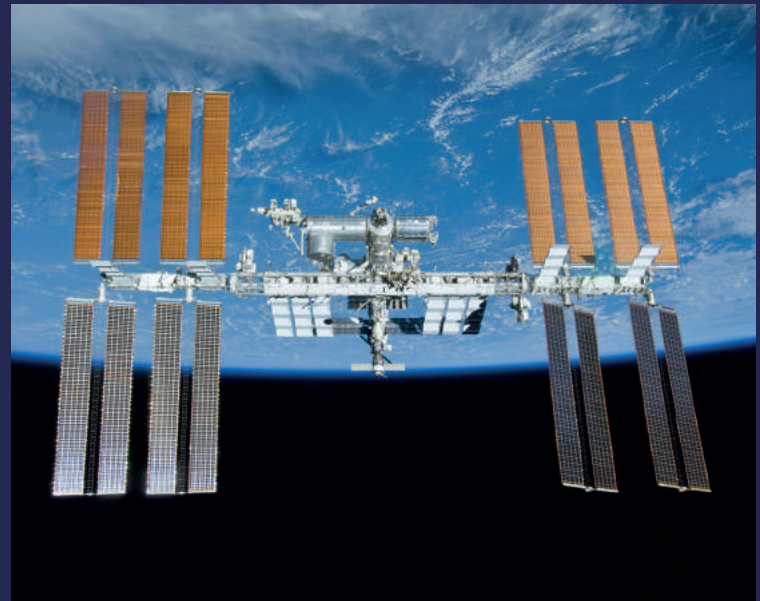
materials at ambient temperatures under sufficiently high contact forces. This phenomenon, well-studied on Earth, has gained new significance in the context of space. In the harsh space environment, where joint surfaces do not re-oxide after wear, cold-welding can occur at lower contact forces. The research explores the potential of cold-welding for spacecraft hull perforation repair, promising a paradigm shift in space technology.

Spacecraft shield and hull perforations resulting from hypervelocity impacts by micrometeoroids or space debris are a common challenge. Repairing these breaches from inside the spacecraft is ideal, considering pressure differentials.



The project unfolds in two crucial phases. The first phase involves terrestrial development and validation using a vacuum chamber, setting the foundation for the groundbreaking work. The core activity is the design and testing of an experimental setup, which will be integrated as a payload on the ISS for the second phase. This setup can simulate hull breaches, apply repair patches, and monitor their performance, marking a significant milestone in the utilization of cold-welding for space technology.

ASTROBEAT is a collaborative endeavour between the Department of Aviation at MCAST and the Aerospace, Mechanical and Electronic Department at South East Technological University (SETU). It also benefits from collaboration with the Centre of Studies and Activities for Space (CISAS) "G. Colombo" of the University of Padova and the Skyup Academy, Italy.



# ENIHEI's Third Conference: Exploring Higher Education's Role in Innovation

Dr Tatjana Chircop, MCAST Deputy Principal Research and Innovation, represented the College at the European Network of Innovative Higher Education Institutions (ENIHEI) Annual Conference in October 2023.

The event, hosted by the Technical University of Gabrovo, Bulgaria, brought together a consortium of 38 innovative universities from across the European Union. ENIHEI stood at the forefront of fostering collective innovative thinking about the role of higher education in driving innovation, a network initially introduced at the inaugural European Education and Innovation Summit in June 2022.

As a platform for knowledge exchange and

idea-sharing, ENIHEI members collaborated on ways in which higher education could nurture an innovation culture, fostering creativity, entrepreneurship, and talent. Mariya Gabriel, the former European Commissioner for Innovation and then Deputy Prime Minister and Foreign Affairs Minister of Bulgaria, was a notable presence at the conference. She actively participated in a panel discussion titled "Transformative Contributions of Higher Education to the European Innovation Ecosystem: Opportunities, Challenges, and Resources."

As a proud member of ENIHEI, MCAST eagerly contributed to the vital discussions on higher education and innovation.





# Launch of the Second Special Issue of the MCAST Journal of Applied Research and Practice

Academics at the Institute of Community Services worked on the second special issue of the MCAST Journal of Applied Research and Practice, exclusively dedicated to research in Sport, Exercise, and Health.

The inaugural issue, released in September 2022, showcased a variety of locally contextualized research studies conducted by Maltese researchers and international academics. These studies delved into critical issues in local sport and physical activity provision, serving as an ongoing platform to encourage local experts to address substantive research problems impacting the local sport, exercise, and health communities.

Having confirmed the continuation of the special issue series into its second iteration, a call for papers was issued in May 2023 and was promptly met with enthusiastic responses. The editorial team initiated the peer review process for the first batch of selected high-quality papers. The majority of these papers represented the work of local experts and academics in sport and exercise science, addressing problems in subfields ranging from sport psychology to public health. The submissions employed a diverse array of methodological approaches, including randomized controlled trials, surveys, and interview studies.



# Making the Future with Erasmus+ in Munich

**BY ING. DAMIAN BRINCAT, LECTURER AND RESEARCHER -  
MANUFACTURING ENGINEERING**

I recently participated in an international training event hosted by FABLAB München, as part of the Erasmus+ project Make My Future. The project aims to improve the digital competences of VET students for the advanced manufacturing industries by using the maker movement and digital manufacturing tools.

The training event was a great opportunity to learn from experts and practitioners how to teach digital manufacturing skills to Level 4 students, such as 3D printing, laser cutting, CNC machining, and robotics. These skills are crucial for the future of work in the EU, as they enable students to design, create, and customize products and solutions for various needs.

During the event, my colleague David Mifsud and I visited Makerspace, a public workshop that offers access to various digital fabrication tools and equipment. There, we saw how students and entrepreneurs can use these tools to create prototypes, models, and artworks, as well as learn from each other and collaborate on projects. We also visited FOS Haar, a VET school, where we observed how teachers integrate digital manufacturing skills into the curriculum

and foster students' creativity and problem-solving skills. I was impressed how this school utilizes 'learning by doing' in a 'self-paced' manner.

Another highlight of the event was learning to operate a small handheld CNC router. Such CNC machines are smaller, cheaper, and easier to use than the industrial ones, and they can be used to produce high-quality and complex parts and products at home or in small workshops. I was impressed by the potential of these machines to democratize digital manufacturing and empower students to become makers and innovators.

The event was a valuable and enriching experience for me, as I gained new knowledge and skills that I can apply in my teaching practice. I also made new connections and friendships with other participants, who shared their insights and experiences with me. The project has a duration of two years, and we will conclude this December. I am looking forward to implementing what I learned in Munich and inspiring my students to embrace digital manufacturing skills.



Figure 1. Our host organization had their sign done in-house, using materials typically used for school projects.



Figure 2. Myself (left) and David (right) posing in one of the many squares embellishing Munich.



Figure 3. The CNC router we were trained to use was manually operated to cut through wood. It corrects any erratic path automatically using CNC technology.

# Innovative 3D-Printed Kevlar: Smart Ballistic Optimization for Aerospace Exostructure Repair

The Malta Council for Science and Technology has funded a EUR 150,000 project led by Dr Leonardo Barilaro, Senior Lecturer in Aerospace Engineering at MCAST. The project, named SBORAEK (R&I-2022-002L), is set to revolutionize aerospace repair procedures and enhance small satellite shielding efficiency.

Key features of materials in aerospace, including impact resistance, weight, and design, have always been critical. Continuous Aramid Fibres, exemplified by Kevlar®, are renowned for their exceptional impact resistance and high strength-to-weight ratio. These fibres are widely used in military and civil systems.

Recent advancements in aerospace have highlighted the need for improved repair strategies following high-energy impacts, such as those caused by bullets or space debris. Enter SBORAEK—a project dedicated to the development of 3D-printed shields for high-energy impact applications in aerospace. The project utilizes continuous fibres for ballistic optimization, with a core innovation being the application of a multi-objective optimization procedure in the design of experimental samples. These samples are rigorously evaluated through simulations and laboratory tests.

What sets SBORAEK apart is its promise of faster implementation compared to traditional methods and the high level of customization it offers for specific cases. The project aims to represent a paradigm shift in repair procedures for inflatable manned modules in space and promises to make small satellite shields more efficient.

As additive manufacturing emerges as a promising field, the SBORAEK project taps into this technology, providing flexibility in designing multilayer protection shields and aerospace structures. The initiative aligns with the evolving needs of the aerospace sector and aims to contribute significantly to advancing aerospace materials and repair methodologies.

The Malta Council for Science and Technology supports SBORAEK through the FUSION - Technology Development Programme LITE. This initiative marks a significant step forward in aerospace research and reinforces MCAST's commitment to cutting-edge projects with real-world applications.





# Hack for Skills Hackathon Winners Announced During Event Held at MCAST

On November 24, 2023, MCAST (Malta College of Arts, Science and Technology) hosted the closing event of the “New Skills for Jobs in the Making – Hack for Skills!” Hackathon initiative on its campus in Paola. Forty young participants, with twenty located in Malta and twenty in Cyprus, engaged in a spirited competition to devise the most innovative solutions for skills development over the next decade. The challenge prompted participants to tackle ideas essential for upskilling and reskilling in alignment with industry requirements, exploring how educational institutions can effectively address the evolving demands of skills in the era of artificial intelligence.

The Maltese team included students and MCAST alumni from various disciplines spanning ICT, Creative Arts, Applied Sciences, and Engineering. During the hackathon's closing event, Cypriot teams joined the Maltese teams at the College, and all these teams presented their ideas in front of a selection committee. The hard work and dedication shown by all teams was evident for all to see during the presentations.

A panel discussion focused on the sharing of good practices and identification of possible project and policy ideas was organized during the event. Moreover, the importance of the Erasmus+ Programme

and its importance to lifelong learning was highlighted.

The Hack for Skills Hackathon event proved to be a unique educational experience for young people, serving as a learning platform, and one where teamwork and collaboration were instrumental.

The initiative “New Skills for Jobs in the Making – Hack for Skills!” was organized by the Foundation for the Management of European Lifelong Learning Programmes in collaboration with the Union of Municipalities

of Cyprus, the Cyprus Human Resources Development Authority, and corresponding Maltese organizations namely, the Western Regional Council, National Skills Council, and the European Union Programmes Agency with the support of the Center for Social Innovation (CSI), in the context of the European Year of Skills.



# MCAST Signs MoU with MCST

On November 16, 2023, MCAST and the Malta Council for Science and Technology (MCST) formalized their partnership by signing a Memorandum of Agreement. This collaboration places a strategic focus on vital sectors, specifically research and innovation, training and the creation of valuable learning opportunities for students. Under this agreement, MCAST students will gain enhanced access to practical experiences aligning with their academic courses and chosen career paths.

The signing ceremony was presided over by Clifton Grima, the Minister for Education, Sport, Youth, Research, and Innovation, and Keith Azzopardi Tanti, the Parliamentary Secretary for Youth, Research, and Innovation. Dr. Tatjana Chircop, Deputy Principal for Research and Innovation, represented MCAST, while Dr. Tonio Portuguese, Chairperson of MCST, signed on behalf of the Malta Council for Science and Technology.

## MCAST Inaugurates New Educational Centre on Campus

MCAST and MG2I - MCAST's Gateway to Industry - celebrated the official opening of the Zheng He Traditional Chinese Medicine Education Centre on the Paola campus. This newly established centre will function under MCAST's Institute of Community Services (ICS). The collaborative efforts between MCAST and Jiangsu Vocational College of Medicine (JSMC) materialized in a formal agreement signed in June 2021. Subsequently, during the Dubai Expo in December 2021, an additional agreement was inked specifically for the Zheng He Education Centre, reinforcing and deepening the collaboration between the two institutions.

Delegates from the Jiangsu Vocational College of Medicine participated in the inauguration event and attended a series of meetings hosted on campus. The Minister for Education, Sport, Youth, Research and Innovation inaugurated the Centre.

Minister Grima said, "Our countries have long-standing diplomatic relations, and we are pleased to take on new opportunities to promote bilateral educational cooperation. MCAST is an international hub and a Centre of excellence in vocational training and education. We need to ensure that the teaching and learning are relevant globally. I am confident this collaboration will lead



to mutual growth and inspiring exchange, benefitting our learners and educators.”

During the inauguration event, MCAST Principal and CEO Professor Joachim James Calleja said, “This Centre is not just a convergence of two distinguished educational methodologies, but a chance to connect and encourage cultural exchange. With the Centre for Traditional Chinese Medicine, we are not only integrating diversity but also weaving together the rich tapestries of our cultures, expanding our international community, and building bridges of understanding.”

The Ambassador of China, HE Yu Dunhai, congratulated both institutions on their collaboration, emphasizing the importance of working together and encouraging growth through cultural exchange.





# Prestigious Award for the Best Project in the Community at the Sixth Edition of the Premju Għall-Arti

The MCAST Institute for the Creative Arts' performance, titled B'Saħħtek, has been honoured with the prestigious award for the best project in the community at the sixth edition of the Premju Għall-Arti.

MCAST is privileged to convey that the performance entitled B' Saħħtek, curated by the Institute, has garnered the distinguished award for the best project in the community. This noteworthy achievement stands as a testament to the commitment and artistic prowess demonstrated by our Performing Arts Students, under the guidance of Dr. Tyrone Grima, a lecturer within the Institute for the Creative Arts.

In addition to acknowledging the accomplishments of our students and Dr. Grima, we extend heartfelt congratulations to select staff members who have been duly recognized for their outstanding contributions:

Award for National Artistic Excellence: Il-Qfil u l-Ħelsien Skond Manwel Dimech, a production by Teatru Malta directed by Dr. Victor Jacono.

Best Visual Arts Production: Joseph Smith and Therese Debono, who have exhibited

exceptional proficiency in their collaborative creation, Spaces in Suspension.

We also commend the noteworthy nomination of Darren Tanti in the visual arts category, reflecting his commendable efforts and contributions.

The collective achievements of our Institute reflect the exceptional standard of artistic excellence and scholarly dedication that defines our College. We extend our sincere congratulations to all the esteemed award recipients and express our profound gratitude for their exemplary representation of the MCAST Institute for the Creative Arts.



IL-MANUĊĊA TTIR MAŻ - ŻMIEN  
KUNSILL REGIONALI  
NOFSINHAR, KUNSILL  
LOKALI TAŻ-ŻEJTUN

IL-PROGRAMM TAL-MISKIN  
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