

ISSUE 60

# A Breath of Fresh Air

KSM's Political  
Dialogues

## MCAST LINK

Graduating at  
**77** Years  
Old

Catching up with  
Wally Terrible

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# Editorial



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Welcome to a newly designed MCASTlink with a new look and feel for you!

An important development this term was the inauguration of the four-storey MCAST Resource Centre that is located on the MCAST Main Campus. This building houses the new Library on the second floor, the Applied Research and Innovation Centre (ARIC), the Learning Support Unit, an exhibition space, fourteen classrooms, one IT lab, one auditorium and various study areas.

Research is one of MCAST's main pillars and this issue delves into two major research projects that the MCAST Applied Research and Innovation Centre is currently working on, namely the Telepresence Robot and the Atmospheric Observation Toolbox (AEROTOX) that will predict Saharan Desert dust clouds over the Maltese Islands. More details about these two research projects can be found within the magazine.

More prominence is being given to students and their work. This edition features Creative Art students showcasing some of the jewellery they have designed, an exhibition of photos at the Marsa-Hamrun bypass outdoor gallery as well as students' research work published in international peer-reviewed journals.

An interesting read is the interview with MCAST's oldest graduate at seventy-seven years old. We met up with Wally Terribile to find out why he chose to continue studying and why he chose MCAST to do so.

May your Easter be filled with joy, happiness and peace this season and always.

# Message from the Principal

## PROFESSOR JOACHIM JAMES CALLEJA

A College that holds so many activities in such a short span of time is a College that is truly alive and kicking! In the latter part of 2021, the Minister for Education launched a new strategic plan. The plan outlines our vision for the College as well as clear strategic goals that management is bound to achieve. Based on the successes achieved with the first strategic plan 2019-2021, the new document outlines our objectives to improve the infrastructure and complete the Paola campus. It also aims to strengthen the already robust quality assurance regime, increase work-based learning, enhance our international profile by engaging with more institutions abroad and attracting more students, improving the image of vocational

and professional education and incentivising more applied research and innovation across the College.

Part of the strategy is supported by the inauguration of the new Resource Centre, a new eco-friendly building housing two floors for a state-of-the-art library, one floor for research and innovation and one other floor for modern teaching environments for young people with learning difficulties. The ground floor will also host exhibitions, reading and study areas for the community, as well as an auditorium for activities open to the public. The Research EXPO 2021 has been a success story on which we are building the next phase of our impact research policy. We will be engaging more





lecturers to undertake research, join international research projects and prepare for two major MCAST research conferences in September (EAIR 44th Forum on Accelerating the Future of the Higher Education 4th-7th September 2022) and in November (Fuelling Creative Minds through Applied Qualitative Research 23rd - 25th November 2022).

MCAST has also featured prominently in the Dubai EXPO 2021 through a series of seminars in which international players have been attracted to collaborate with the College on projects related to the six key areas of MCAST. This lies very well with the various Institute activities promoting a culture for impact and applied research that links the learning environment of the College with the employment responsibilities in places of work. Our graduands are well prepared for the world of work. Most of them have already had direct experience during their apprenticeships or placements in industry; others have been exposed to simulated work environments in the College.

It is this philosophy that drives our teaching and learning environments

whether at the College or in the place of work. Many of the articles in this edition bear evidence to the strong links that we have with industry and other places of work, whether public or private organisations. The regular meetings and the series of growing memoranda of cooperation signed between the College and organisations over these few months show that the MCAST is already on track to become a community college for all.

I am particularly happy to notice the enormous work and success stories of the Community Social Responsibility (CSR) programme. The participation of students is outstanding and the contribution to society is growing by the minute. A quick look at CSR Facebook gives you a better picture of many of the projects that our students embark upon. Supporting a community that provides all the resources to the College is just a small sign of gratitude and appreciation. At the same time, students are experiencing voluntary work particularly with vulnerable groups and with organisations in dire need of help. This is what MCAST is all about – learning by doing and learning by sharing talents and a sense of citizenship.

As the new prospectus 2022-2023 has been published on our web portal, we encourage teachers and parents as well as students leaving compulsory education to have a look at the over 190 programmes that the College offers at all levels of the qualifications framework. Certainly, one or more programmes match the talent of our young generation. We shall be marketing our programmes as much as we can but I invite College Principals and Heads of School to ask for briefing sessions by our Career Counselling Department. We would be more than happy to share our offers with you. Enrolment at MCAST is a guarantee to a prospective job offer in many sectors of our economy.

In concluding, I wish to recall the memory of Mr Donald Friggieri, a former Director of the Institute for the Creative Arts in Targa Gap and former Consultant at MCAST who passed away in February. Donald was a truly dedicated teacher and manager. His love for students' welfare was unparalleled in many respects. In his teaching and in setting up the Institute he dedicated long hours of preparation and hard work. Today we reap the benefits of his unfailing loyalty to this College, to the lecturers he recruited and

managed and to the many students who have had a brilliant career in the Arts.

# MCAST Strategic Plan

## TRANSITIONING INTO A NEW STRATEGIC FRAMEWORK

The MCAST Strategic Plan was launched on the 20th May 2019. The plan, built around the Strategic Blueprint which the College endorsed for the years 2018-2030, spanned 7 Strategic Objectives, 18 Initiatives and 86 Measures. The published document outlined the priorities for the College and highlighted the importance of a dynamic evolution to reflect the changes in the socio-economic fabric in Malta.

MCAST has been very active in using this Strategic Plan as its guiding tool in the various decisions and initiatives taken during the past three years. Annual action plans have guided the direction provided by the Principal and the Deputy Principals in their respective roles. The annual targets have cascaded to the various Units, Departments and Institutes.

During the past three years, monitoring and reporting have been ongoing through the Strategy Implementation Office. Status update reports were presented

to the Board of Governors every six months. The final report was presented on the 25th January 2022. This report brings to a conclusion the monitoring process of the Strategic Plan 2019-2021. The outstanding ongoing initiatives dovetail into the Strategic Plan 2022-2027 and will continue to be monitored and reported through the respective monitoring mechanism.

The College recorded an 80% achievement rate of the targets set in the Strategic Plan. Significant improvements have been seen in the launch of the Claster as well as the launch of the intranet for all MCAST staff members. The campus infrastructure has been embellished to provide a more attractive space for staff and students and to adequately provide for a more modern teaching and learning space. The Gozo Campus is now linked with video-conference facilities and overall maintenance works are ongoing to upgrade the existing facilities. The opening of the new MCAST Resource





Centre is the result of work carried out in the past three years. Campus residential facilities, the theatre, and other Institute buildings remain a target for the College to be achieved in the coming months and years.

The focus on quality and relevance of the students' learning experience has been enhanced through more flexibility in the learning programmes at the ICA, the IET and the IICT. The seamless connection between Moodle, Classter and OTIS has modernized the academic management of students, profiling and the teaching and learning processes. The onset of the pandemic has spurred the use of

other technologies for the provision of effective online learning. This has opened a window of opportunity for more flexibility in the delivery of full-time, part-time and bespoke courses. Similarly, important steps have been taken to widen the assessment methods while retaining rigour and external oversight. Inclusive assessment criteria also allow for students with disabilities to have appropriate access arrangements. Academic staff members benefitted from continuous professional development options offered by the College. An important College milestone was the launch of its comprehensive Recognition of Prior Learning policy, which encompasses



the recognition of certified learning and experiential learning. Important steps have also been taken to formalise a College Equality Policy and a more comprehensive anti-harassment policy for staff and students. The College inaugurated a multifaith room, widened its wellbeing services, pedestrianized its campus and made sports facilities available for all.

Vocational and professional education and training necessitates work-based learning to remain central to its provision. MCAST has increased the number of courses with accredited work-based learning components, launched the Apprenticeship Degrees, updated the apprenticeship contracts, increased the number of its industry partners and included more practical industry-based training options for academic staff. The COVID-19 pandemic limited the international targets linked to work-based learning and impacted the number of students who were able to travel for work or studies abroad.

During the past three years, MCAST has revamped its image, its presence and engagement on social media, its web portal, its logo



and also its internal and external communication tools. It has brought forward the annual launch of its full-time prospectus to allow students to have earlier information to make a more informed choice. MCAST has participated in national events linked to research, science, arts, culture, expos and youths. The launch of the MCAST Success Stories publications has showcased 75 alumni stories. Promotional videos available online have highlighted 12 females in VPET. MCAST is regularly represented on committees at European level, on national fora and in meetings with employers' associations and industry stakeholders. MCAST also works with NGOs and VOs on student community projects. Closer links have been forged across the board which lay the foundations for the community college concept which will be promoted in the coming years.

The onset of the COVID-19 pandemic has meant that some targets could not be fully addressed while others have been speeded up. Challenges and delays resulted in the infrastructural targets for the MCAST Main Campus. Similarly, additional efforts need to be made to recoup the focus on international

placements, students' placements abroad and hosting international bespoke training events.

The staff and students' surveys carried out in April 2021 were an important exercise to feed into the strategic plans of the coming years. The new Strategic Plan 2022-2027 will take forward these ongoing targets, build on the achievements of the past few years and focus on transforming VPET into a more community-based, sustainable, future-oriented and dynamic option to upskill and reskill our labour force.

# Members of the MCAST Student Council



## **BRADLEY DEBONO - PRESIDENT**

The President is in charge of distributing and sharing various tasks among the executive committee members, as well as ensuring that the legislation is adhered to at all times. He must also guarantee that regulations are followed and that problems are brought to management's notice. Any decision made by a Council member must go through him. The President is in charge of coordinating the members and ensuring that the responsibilities assigned are completed correctly.

## **DENILSON BRINCAT - VICE-PRESIDENT**

The Vice-President is to support the President at all times, with the Secretary General's aid. The President's deputy is to take over the President's duties in his absence and will be in charge of members, tasks and meeting coordination. He also helps with finances and public relations among other duties.

## **MARIA BONACI - GENERAL SECRETARY**

The General Secretary is in charge of taking minutes during all of the Council's meetings. She is responsible to create the general meeting's agenda and publishes the minutes to the council. She also develops and presents the administrative report during the AGM.

## **SHELSEYA TANTI - PUBLIC RELATIONS OFFICER**

The Council's marketing, as well as social media groups and platforms, are handled by the Public Relations Officer. She sets a plan with the support of the President that allows the Council to arrange events and market them to key stakeholders.



### **XAVIER SANT – FINANCIAL OFFICER**

The MCAST Student Council's finances are the responsibility of the financial officer. He is responsible for preparing the financial report and presenting it at the AGM.

### **REBECCA MIFSUD – EDUCATIONAL COMMISSIONER**

The Educational Commissioner is in charge of developing educational campaigns and raising awareness on campus.

### **HAYDEN PESCI – SOCIAL POLICY COMMISSIONER**

Other active student organisations on campus are overseen by the Social Policy Commissioner. He mentors and assists students who want to start a new organisation on campus. He is also in charge of developing and implementing new policies for the council.

### **NEIL XUEREB – CULTURAL AND EVENTS COMMISSIONER**

The Cultural and Events Commissioner's role is to plan a variety of events throughout the year and guarantee that they are well attended. He must raise student awareness of the Council's programmes and events with the support of KSM members.

### **TYLER CAPPELLO – MEDIA OFFICER**

The media officer is responsible of creating designs for the council to be used on their social media platforms. During meetings, campaigns, and events, he is also in charge of photographing and videographing all of KSM's materials.

### **MATTHIAS REFALO – GOZO REPRESENTATIVE**

The Gozo Representative is elected by GUG and serves as a liaison between MCAST Student Council members and Gozitan students as well as the Gozo Institute.

### **SAMANTHA JANE CURMI – STUDENT LIAISON OFFICER**

The Student Liaison Officer is elected by the KSM members and serves as a bridge between the MCAST Student Council and the satellite Institutes, as well as all MCAST students.





# A breath of fresh air: KSM's political dialogues

One could not help admire the way the KSM-Kunsill Studenti MCAST organised a number of political dialogues on campus.

There were four well-attended dialogues in all, with the slogan “Għall-Futur Tagħna” (For Our Future). The first was with the Leader of the Opposition Hon. Dr. Bernard Grech, the second and the third tackled women in power and youth respectively and the final dialogue was with the Prime Minister Hon. Dr Robert Abela.

Questions were well prepared and asked by the MCAST students studying journalism. Other MCAST students facilitated the discussion. I could not help but appreciate the civil

way in which the dialogues were held. Every session was an educational experience in itself. MCAST is rapidly becoming a community college for all. Students and their lecturers are seeking to engage with the community in several ways.

The first dialogue was with the Leader of the Opposition, Dr Bernard Grech. It was evident that he shared what it means to study and the challenges that post-secondary education institutions pose to the students who must study and very often earn a living. He reiterated parts of the Party's manifesto concerning youth and their future career pathways and sought to encourage students to do their utmost to support voluntary organisations. Referring to the

Party's proposed ten new economic sectors, he encouraged learners to explore alternative jobs, more education and training and invest in learning to learn techniques.

The dialogue on the role of women in politics saw five speakers sharing the common belief that more needs to be done for equal participation of males and females in politics in Malta. Ms Bernice Bonello PN, Ms Claudette Buttigieg PN, Ms Alison Zerafa Civelli PL, Ms Rebecca Buttigieg PL, and MCAST lecturer Dr Melissa Bagley representing ADPD, participated in the discussion.

The dialogue on youth focused on the need to empower young people to remain in education and training for as long as possible. All parties agreed that young people need more than financial support. The social and well-being aspects in educational institutions are paramount to engaging students and ensuring that all learners are taken care of not only from the academic and training aspects but also from all other socio-economic and cultural aspects. Working and learning are paramount to young people's lives and most speakers praised MCAST for seeking to merge these two important aspects of a young student's life. In this

panel discussion Mr Gabriel Micallef MZPN, Mr Georvin Bugeja FZL and Mina Tolu ADZ replied to questions asked by the young audience.

During the last dialogue, the Prime Minister Abela emphasised the need for life-long learning in order to achieve success in one's career. He delved into government's plans for MCAST and his support to employers to engage students in apprenticeship programmes. Financial support will be increased for students and education institutions and this will eventually make a difference in the quality of education and in the employability of learners. Apart from the aforementioned, KSM made sure to promote youth candidates, new faces as well as independent candidates by filming several podcasts which were uploaded on their social media platforms. KSM and MCAST has set a standard in political dialogues. The learners of today are the workers of tomorrow and from this experience one can easily deduce that the young people at the College have open-mindedness are pragmatic in their approach and critical of the realities presented to them. This augers well for our country and for more quality active participation in politics and in parliament.

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# New state-of-the-art 'MCAST Resource Centre' building inaugurated

On Tuesday 15th February 2022 MCAST inaugurated the MCAST Resource Centre (MRC) - a new, flagship 9.3 million euro building situated at the MCAST Main Campus in Paola. The building is part of the College's strategic plan, giving rise to a dynamic learning space, where knowledge and innovation thrive. This project is part of a master plan venture of 30.86 million euros.

Fully accessible, the striking 4-floor building has an overall footprint of 1920 m<sup>2</sup> and a gross floor area of 7,920 m<sup>2</sup>. The task of developing the infrastructure and matching it to the College's academic aspirations was undertaken by MCAST's in-house engineers, architects, and design planners.

The Applied Research and Innovation Centre (ARIC) and an exhibition space are situated on the ground floor. The Learning Support Unit

(LSU) occupies the building's first floor. This Unit ensures that students receive the necessary academic support to acquire their academic skills and become independent in their studies. In addition, the avant-garde building also boasts fourteen classrooms, one IT lab, one auditorium and various study areas.

The highlight of the MRC building is the newly distinctive MCAST library, housed on the second and third floors. Through a particular spatial library design, planners managed to create a learning-centred and teaching commons arena. Learning zones and teaching spaces make the library a meeting place where individuals can collaborate and study.

Equipped with the required resources, including a visualisation wall geared with the latest EdTech features, the novel MRC building

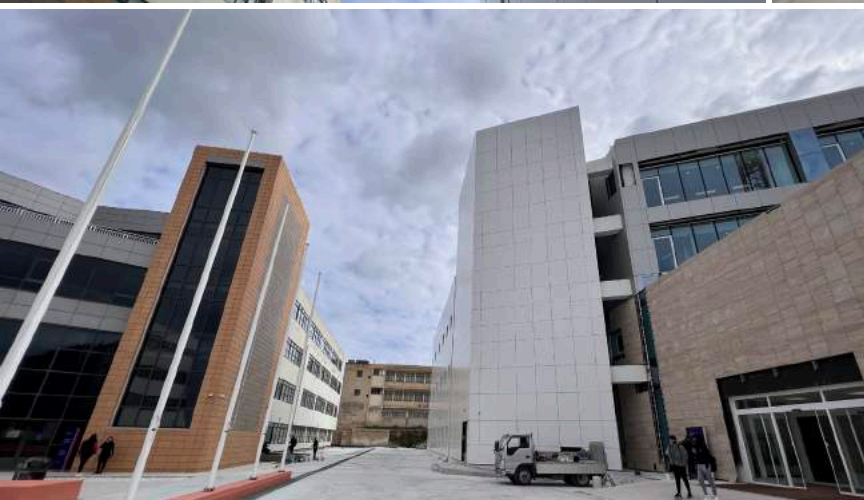
at MCAST will act as a pedagogic hub that will boost the image of vocational education and training (VET).

During the inauguration event, Principal and CEO Professor Joachim James Calleja explained how this “new building acts as a symbol of where the barriers fall between what happens at MCAST and what happens outside MCAST.” He argued that “the new MRC sets the tone on how the College can be utilized in a more pragmatic way.”

To uphold MCAST’s pro-environmental stance, an eco-friendly construction method was adopted. Constructed with the goal of making efficient use of water, the MRC collects natural rainwater in a built reservoir. This water is automatically utilized and re-used.

In a bid to ensure energy efficiency and its conservation, the MRC’s design aims towards reducing electrical demand. This intent is achieved through various measures, including the use of internal localised lighting, light coloured walls to maximise indoor lighting, double-leaf construction, and the use of insulating materials within the building to reduce heat losses.

The MRC enjoyed by students and the community spearheads MCAST’s ambitious objectives to develop education that fosters employment skills while instilling a lifelong learning culture.





# MCAST participates in the Dubai Education Expo 2020

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On 14th December 2021 Professor Joachim James Calleja, MCAST Principal and CEO and Stephen Vella, Deputy Principal hosted an MCAST Symposium at the Malta Pavilion at the prestigious Dubai Education Expo.

Over 25 million visitors attended the Dubai Expo, which opened its doors to the public back in

October 2021. Moreover, around 200 entities, including other educational institutions and business entities from all over the world, participated in this year's World Expo.

MCAST representatives participated in the Knowledge and Learning Week, which took place between the 12th and the 17th of December 2021. The College's recently published





Strategic Plan emphasizes the importance of working with international partners to deliver MCAST programmes internationally and encourage student mobility.

The Malta Pavilion within the Expo hosted several key seminars during the Knowledge and Learning Week. The seminars and discussions promoted Malta and MCAST as a top

training and education destination.

The Knowledge and Learning thematic week provided local education institutions, including MCAST, networking opportunities and the chance to collaborate with educational entities from all across the globe.

# MCAST strikes collaboration agreement with Norwegian College

During the Dubai World Expo 2020, representatives from MCAST and the Kuben Videregående Skole reached a collaboration agreement which will see MCAST host students from Kuben in the future.

Starting from the next academic year, MCAST is set to host a group of ten students. This international student intake from Kuben will occur on a yearly basis.

The students from Kuben will be following modules related to computer electronics and engineering at MCAST. The modules have been carefully chosen together with the academic staff from Kuben to meet the students' required learning outcomes.

During their stay, MCAST will also be organising various cultural activities for the students.

A team from Kuben Videregående Skole also visited MCAST back in summer 2021 and met all relevant academic staff and team members.

The signing of this agreement marks the start of a collaboration that the College looks forward to sustaining for years to come.

The agreement was signed by Professor Joachim James Calleja, MCAST Principal and CEO and Mr Kjell Ove Hauge, Principal Kuben Videregående Skole.



# MCAST rewards students for the trust shown in the College

On the 19th November 2021 MCAST held a presentation event to reward the first thirty students who applied and were accepted to follow courses at the College during the 2020-2021 intake. MCAST Principal and CEO Professor Joachim James Calleja, hosted the students and personally thanked them for the trust they have shown towards the College. The event was held in the President's Boardroom.

During the event, students were handed a certificate of appreciation by Principal Joachim James Calleja and Registrar Maria Pace. The students applied for different courses within diverse levels, spanning across all six MCAST Institutes.

During the event, students expressed their satisfaction at the opportunity they have been given by MCAST to learn industry-relevant skills during

their educational journey through the College's apprenticeship programme. Many cited this opportunity as a deal maker in their future quest to become recognized industry professionals. On his part, the Principal stressed "the importance of students experiencing the world of work during their studies, because this is a fundamental ingredient in giving them a competitive edge in the industry."

Many students argued that the student-friendly educative approach, together with the variety of study choices and modes of learning offered at MCAST, were encouraging them to further their educational studies in the future.

"As emphasized in the Strategic Plan, we are focused on providing quality courses aimed at helping our students reach their highest potential. We embrace a student-first approach at MCAST," stated Professor Calleja.

The College underlines the importance of working closely with students and empowering them to be the best versions of themselves both academically and professionally.





# MCAST to start offering courses to Corradino inmates

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MCAST and the Correctional Services Agency have signed a memorandum of understanding whereby the College will start offering a selection of courses to inmates at the Corradino Correctional Facility.

This agreement will allow inmates to follow MQF accredited courses, which will help them find employment in the industry. Among others, courses on how to handle personal finances, trade courses and manufacturing skills courses will be developed and offered.

# MCAST and eSkills Malta Foundation sign a sponsorship agreement

MCAST and eSkills Malta Foundation have signed a new sponsorship agreement that will see the eSkills Malta Foundation sponsoring and supporting MCAST's Institute of Information and Communication Technology (IICT) in its quest to set up the MCAST HackSpace.

The lack of local spaces for security-curious individuals prompted MCAST to launch the new HackSpace project. This project aims to provide a space where students can meet, learn and discuss security-related issues. This initiative will help students in familiarizing themselves with new technologies while gaining a better understanding of areas related to cyber security.

Recent trends in ICT show that cyber security skills are very much needed industrial tools. Importantly, this sponsorship agreement will help with motivating MCAST students to continue their studies and boost their ICT skills set.

# MCAST signs Memorandum of Understanding with Koperattivi Malta to strengthen future collaboration

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MCAST and Koperattivi Malta signed a Memorandum of Understanding with the aim of strengthening the collaborative relationship between the College and the Maltese cooperative movement.

The agreement between the two entities aims to disseminate knowledge about the cooperative movement and the cooperative business model among MCAST students and lecturing staff. It also aims to explore ways in which MCAST can provide training opportunities for members and employees that fall under Koperattivi Malta.

This MOU will lead to the organisation of educational activities such as seminars, dedicated lectures,

conferences, placements for MCAST students and other activities.

Through this agreement, MCAST will be considering cooperative business models as alternative business models that will be systematically introduced into different curricula across MCAST in line with the industry needs.

The MOU was signed earlier by the President of Koperattivi Malta Mr Louis Zammit; the CEO of Koperattivi Malta Mr Daniel Schembri, the Principal and CEO of MCAST Professor Joachim James Calleja and Deputy Principal Dr Mario Cardona.

# MCAST and ERA sign new Memorandum of Understanding aimed to generate Environmental Awareness

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The College of Arts, Science, and Technology (MCAST) and the Environment and Resources Authority (ERA) reached an agreement that will see the two entities collaborating to generate more awareness in favour of the environment.

This agreement signed by MCAST Principal and CEO Professor Joachim James Calleja and ERA CEO Architect Michelle Piccinino will see MCAST up the ante in its quest to provide education and training aimed toward creating a workforce that embraces and values the environmental sector.

Professor Calleja argued, “MCAST is keen to work with learners by instilling skills and values for better environmental awareness and resource management.”

He elaborated on MCAST's mission in this regard, stating “We are committed to focusing on sustainable development and preparing a skilled and professional future workforce that meets environmental objectives of today and tomorrow.”

Importantly, this agreement will help MCAST in strengthening training and research on the marine environment, climate change, air pollution, noise pollution, water resource management, biodiversity, and other environmental fields.

# MCAST Deputy Principals' new roles

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## **Philip Vella**

### **Administration**

- HR/Payroll
- Finance
- IT Infrastructure
- Procurement
- CAPEX
- General Maintenance, Security, Precincts and Stores
- HR Staff, Training and Well-being
- Relations with Unions
- Archives

## **Stephen Vella**

### **Business Development and Communications**

- MG2i
- Corporate Legal Office
- Media and Communications
- Capital Projects
- ESF/ERDF Funding
- International Relations
- Canteen/Bookshop

## **Mario Cardona**

### **Vocational and Professional Programmes (VPET)**

- Institute of Business Management and Commerce
- Institute for the Creative Arts
- Institute of Community Services
- Gozo Campus
- Transition
- E&T Programmes including LSU, Key Skills and CSR
- ACVT
- Relations with Government Entities

## **Ronald Curmi**

### **Vocational and Professional Programmes (VPET)**

- Institute of Engineering and Transport
- Institute of Information and Communication Technology
- Institute of Applied Sciences
- Outreach and Student Affairs including the IEU
- Accountable Manager Aviation
- Relations with DGVT

## **Pierre Dalmas**

### **Quality Assurance and Student Academic Management**

- Internal Quality Assurance
- Registrar's Office
- Stipends
- WBL
- Compliance
- Relations with Industry

## **Tatjana Chircop**

### **Research and Innovation**

- Research Projects
- Applied Research Innovation Centre
- EdTech
- CPD
- Master and Doctoral Programmes
- Library and Learning Resources
- Intellectual Property (Teaching and Research)

# Institute of Applied Sciences





## Students' research endeavours international platforms

In the last few years MCAST has given opportunities to students from the Institute of Applied Sciences to present their research endeavours in international conferences and have their work published in peer-reviewed journals. By promoting and discussing their research ideas with experts in the field, these opportunities allow our students to further advance in their respective research areas.

Caroline Balzan, MCAST Communications Manager caught up with two alumni and heard their experiences on presenting their

work at two separate conferences that both aim to bring together scientists and provide a platform in which constructive arguments are presented and ideas are exchanged.

### **Nirvana Avellino talks about the transition from heavy fuel oil to liquified natural gas in Malta during the ICEPTP 2021**

In January 2021, my dissertation supervisor Mr Juan José Bonello approached me with a very interesting idea to develop my research idea further and submit my work to the 6th International

Conference on Environmental Pollution, Treatment and Protection (ICEPTP). The conference aimed to gather scholars from all over the globe to present their findings in the relevant fields and to exchange ideas and information.

The paper submitted was entitled “From Heavy Fuel Oil to Liquefied Natural Gas: Electricity Generation Transition in Malta”. It focused on the shift in the source for electricity generation in Malta by comparing the emissions from the Marsa and Delimara power stations which used heavy fuel oil with the emissions originating from the liquefied natural gas unit. It also investigated the public perception on energy generation and transition.

The paper was accepted and we were invited to present an oral presentation of our work. Even though I presented my work virtually, the experience was highly beneficial, both professionally and for my personal growth. Overall it was an amazing experience and I am grateful that MCAST provided me with the opportunity to present my work on an international platform.

### **Dale Bartolo highlights the importance of safeguarding wetlands**

The International Conference on Energy and Environment Research

(ICEER) is held annually to discuss current issues related to Energy and the Environment. It aims to explore emerging technologies and concepts in a collaborative way, bringing together engineers, researchers and professionals from different areas.

Together with my dissertation supervisors, Mr Juan José Bonello and Ms Francesca Spagnol Gravino, and Mr Raymond Caruana, from the Ministry for Agriculture, Fisheries, Food and Animal Rights, we started looking for the ideal platform to showcase the study.

My work revolved around the water quality within il-Magħluq ta' Marsaskala. The study provided a thorough insight into the possible anthropogenic activities and related implications affecting this Special Area of Conservation. This study is crucial and imperative because it increases knowledge and awareness on the national fish, the Mediterranean killifish, coupled with the fact that in Malta such studies are scarce.

Our work was accepted and we were invited to deliver an oral presentation. The conference was held virtually, so certain limitations were imposed, however the experience was definitely fruitful and one that will even benefit my career.

# Institute of Business, Management & Commerce



## Corporate social responsibility in action

The Institute of Business Management and Commerce has always believed that corporate social responsibility (CSR) is an essential part of the teaching and guiding of students in order for them to have respect and empathy in the society we live in. Being supportive of individuals and the environment is key to ensuring that each and every one of us leaves a positive impact on present and future generations. The Institute staff

members have practised this ethos for years by organising bake sales, fundraisers, and events with the aim to collect funds and assist NGOs in Malta, with the active participation of our students.

This year, an organic evolution took place at the Institute. Andrew Galea, the Director of the Institute of Business Management and Commerce, proposed having a





Welfare and Events Committee for lecturers to organise and coordinate the Institute's CSR events and activities. The result was having a number of lecturers who took up the call and immediately started working together to create a calendar of events in a collaborative way, bringing together engineers, researchers and professionals from different areas.

The first organised event, Ftira Day, was a great success. Held in late October 2021, the event was in aid of the Association of Abandoned Animals (AAA) along with the support of our own Miss Malta contestant, Ms Nakita Grima. With the support of central administration and

collaboration with the MCAST Canteen, a total of €230 was collected. Following this event, in November 2021, all the staff rallied together to collect funds for Children's Dreams, an organisation that in Christmas donates gifts to children that are in need. €520 were generously donated by the staff, making a number of wishes come true for a number of children who would otherwise only dream to get a gift in Christmas.

December 2021 was even busier, with two fundraising events. Tesmarie Busuttil and Justine Formosa, final year BA (Hons) Business Enterprise students, proposed helping Dr Klown, a non-governmental organisation

that provides hospitalized children distraction and stress relief through fun and laughter. Along with the committee, they coordinated several fundraising events such as the Wacky Christmas Sweater Day as well as a Dream Board, with students and staff alike participating and contributing to this organisation. The sum gathered, over €200, was presented to Mr Erik Muscat, Dr Klown's president, at IBMC just before breaking off for the Christmas holidays.

December was also busy with the Reverse Advent Calendar 2021 launched by the Foodbank Lifeline Foundation, a non-governmental organisation that assists families facing short-term emergencies. The Foundation has seen an increase in the number of people struggling to put food on the table in the wake of the COVID-19 pandemic, and the need for donations has been even more crucial. Following a campus-wide call for donations, around 20 boxes of food were collected at the IBMC reception and forwarded to the Foundation.

Another December 2021 event was the bike ride to MCAST, organised with the help of Mr Jonathan

Sammut, Senior Lecturer at IBMC. This was an effort to promote the use of bicycles in our daily commute. Bikers from different towns met and then converged towards MCAST. They were welcomed in front of the Institute with a surprise continental breakfast organised by the IBMC administration team. This was such a success that a larger event is being planned. In the coming months more activities are in the pipeline, such as a clean-up event for staff and students alike who make the environment a priority and want to be part of the solution in the fight against pollution.

At the Institute we encourage the participation of all staff and students in all the initiatives that are organised, whilst hoping also for support from other Institutes. More important is that all students get inspired to do their part and organise similar events and help others, while having fun.



The IBMC Committee members are Mr James Aldric Perry, Ms Anabel Aquilina, Mr Christopher Armeni, Dr Melissa Joan Bagley, Ms Charmaine Bertalanitz, Ing Karl Camilleri, Ms Theresa Demanuele Montebello, Mr Andrew Galea, Ms Claudette Pace, Mr Leonard Spiteri, Ms Jacqueline Sultana, Ms Martina Cristina Vella, Mr Luke Vella, whom we all thank for their tireless efforts.



# MCAST training the Public Service

Traditionally MCAST has always collaborated with industry to understand the latter's human resource requirements and embed these into its various vocational education programmes. Lately, MCAST has teamed up with the Institute for the Public Services (IPS) to deliver multiple degree-level programmes that serve the needs of the Maltese Public Service which employs on average just under 20% of the total local working population. The need for such programmes was felt since appropriately qualified personnel in areas related to management, procurement, policy, and finance are required within the Maltese Public Service.

There are currently three undergraduate programmes running that focus on the Public Service. These are the BA (Hons) Public Projects (offered part-time), the BA (Hons) Procurement and Finance (offered part-time and full-time) and the BA (Hons) in Public Policy and Management (offered full-time). These programmes were

identified following collaborative talks held between MCAST and the IPS which is responsible for continuous professional development within the Public Service and MCAST.

Two of these programmes – the Procurement and Finance course and the Public Projects course - are run on an evening part-time basis whilst the Procurement and Finance course and the Public Policy and Management course are run on a full-time basis under the IPS Student Scheme issued in 2021 by the IPS.

Once the participants on the full-time programmes successfully complete their studies, they will be fully employed at managerial levels within the Public Service, having received focused tuition on the workings of the Public Service.

It takes stamina and perseverance to participate in evening academic educational programmes, but this is mitigated by the increased chance or even promise of increased

responsibility and promotion on completion of the programme one will be following.

The creation and running of these programmes fall within MCAST's strategy of providing highly relevant educational qualifications that serve equally well both the public and the private sector. With such a rich pool of highly qualified lecturers within the IBMC, it was a natural choice for the IPS and the IBMC to collaborate closely towards the provision of these four undergraduate degree programmes. Continuous collaboration between the two entities continues to be the principal driver of addressing issues that arise as the programmes unfold via lectures, assessments, work-based learning events, etc.

The collaboration between IPS and the MCAST Institute of Business Management and Commerce provides a solution where everyone benefits. It is beneficial for those who wish to pursue a professional career within the Maltese Public Service as well as for the local population who have come to expect an elevated level of service from Public Service officers. It must also be said that Public Service officers are entrusted

with the proper use and allocation of public funds and therefore the highest levels of management are justifiably expected. Public Procurement, Finance, Project Management, and other business related areas need to be appropriately handled by the Public Service for the benefit of Malta's economy. To achieve this goal, public officers need to be appropriately qualified in their respective areas of expertise.

The four IPS-MCAST Undergraduate Degree Programmes are underway and the first cohort within these programmes is expected to graduate within two years' time. The plan is to keep learning from this collaborative experience so that more and improved programmes are run in the future. The MCAST IBMC-IPS collaboration is also open to exploring the possibility of launching new and innovative programmes in the future as new public service requirements unfold.



# Institute for the Creative Arts

# Student's photos based on Anton Buttigieg's poem exhibited at the Marsa-Hamrun bypass



An outdoor gallery of the Marsa-Ħamrun bypass is currently exhibiting photos inspired by a poem written by former President Anton Buttigieg, as part of an ongoing collaboration between MCAST and Infrastructure Malta.


Il-Ħolma t'Alla (God's dream) is a series of photos by photography student Nathan Camilleri, inspired by Buttigieg's poem by the same name. A former president of Malta, Buttigieg is also one of the most notable figures in Maltese 20th century literature. Il-Ħolma t'Alla invites the reader to appreciate and respect our planet as a divine work of art. Camilleri described his photos as a way that "exposes our local environment as a tool to build a dialogue between literature, artistic interpretation, and the viewer. The congenital artistic creation reflects itself in our local landscape, which is an integral part of a collective effort to protect our earth, which is here represented by the image of a young girl."

The outdoor gallery on the Marsa-Ħamrun bypass was set up in December 2020. Lining the road's southbound carriageway, it is intended to serve as a gallery and

exhibition space for MCAST students, displaying their works to thousands of road users who travel through the arterial road every day.

Carmen Aquilina, Pierre Mifsud and Darren Tanti, the three lecturers who planned and directed the setting up of this art gallery, used this collaboration to study public and community art as a pedagogical tool, encouraging the public to learn to observe and appreciate artistic creations. The lecturers compiled a pedagogy tool kit to guide educators, educational administrators and other individuals engaged in similar public art projects.

# Multisensorial experience around the theme of Whiteness



*Does white signify something to you?*

*How does the whiteness of milk differ from that of ice?*

*What objects remind you of the colour white?*





White is symbolic in rituals and celebrations the world over and also in different contexts. It means something different to various people. It means something in particular to all of us.

The project BJUDA is an interdisciplinary and synesthesia project that explores this colour and its hues in relation to its absence. It ties in together the different phases of our lives – from childhood to death putting youth in the midst – through bilingual poetry, photography and music.

The three main artists who came together for this project are Leanne Ellul, a writer of stories for children and for adults, and also poetry, Giola Cassar, an experienced photographic artist who exhibited her work both in Malta and abroad, and Kenneth Sacco, a musician and composer who will be sharing his music for the first time ever.

The poems have been translated to English by Albert Gatt.

After months of research and exploration of the concept of whiteness, together with a workshop for youths, the project by these three artists reached its peak through an interactive exhibition curated by Elyse Tonna and a book with a different format from usual designed by Zvezdan Reljić.

The exhibition was inaugurated on the 9th of February and was open for the following three weeks at Aġenzija Żgħażaġħ, Santa Venera. A number of events were held during the exhibition period, namely poetry reading, discussions and workshops with youths and adults alike.

This project is financed by Aġenzija Żgħażaġħ on their 10th year anniversary.

Photos by Katelia - Katel Delia



# What are MCAST Art students up to?

The MCAST Communications Office discovered what four second year students, Marta Frendo, Martina Deguara, Gabriel Grima and Yentl Cuschieri following the BA (Hons) in Fashion Design programme, created as part of their course.



## **Course**

BA (Hons) in Fashion Design

## **Unit**

Fashion Accessories

This unit supports our fashion design students with the opportunity to develop their design skills and their ability to produce fashion accessories with particular attention to jewellery and body ornaments. Students are encouraged to delve into the aesthetic, contextual and commercial value of fashion accessories, body ornament and jewellery making. They also learn how to use different studio techniques through a comprehensive exploration of media, depending on their design objectives.

## **Objective**

A minimum of one innovative accessory or jewellery piece of high quality which visually translates unique concepts through textures and surfaces.

## **Research**

They researched different textures that are connected to a significant environment, memory or an event. Textures were explored through creative elements and qualities that narrate a story or evoke an experience. These elements were developed through preliminary sketches, developmental drawings and experimentations in the jewellery workshop.

## **Material Used**

Pure silver, Brass, Semi-precious stones

## **Tutors**

Ruth Ancilleri and Charles Pace Briffa

# Institute of Engineering & Transport

# Aviation Department New Diploma in Cabin Crew Training offered

MCAST is launching a new Level 3 Diploma in Cabin Crew Training. The Cabin Crew Diploma is designed for aspiring young professionals looking at getting a head start in the profession, introducing the skills and responsibilities expected by the world's leading airlines. The one-year diploma course will be regulated by the International Aviation Standards. At the end of the course, candidates who successfully complete the programme are awarded an Attestation and an MCAST Diploma at MQF Level 3.

The course at MCAST consists of a combination of both theoretical and practical components including the legally required Cabin Crew initial training elements and those associated with guest centricity. Special emphasis is given to customer service and procedures for handling unusual situations during flights. The course also includes a Safety Equipment Procedure (SEP)

programme providing an overview of the safety and emergency procedures.

The Diploma in Cabin Crew Training is one of the courses provided by the Department of Aviation at the Institute of Engineering and Transport. It is coordinated by Director Ing. Stephen Sammut, Deputy Director Ing. Roberto Tiscio and Senior Lecturer Ms Vanessa Titley.





## Department of Building and Construction Engineering Restoration works at Selmun

In early December 2021 the Department of Building and Construction Engineering received a request for help from the Mellieħa Local Council. The Council requested help with the restoration of two old rooms at Selmun which had developed some damages a few weeks before as a result of the heavy rains.

The Department immediately accepted as students following the Diploma course in Masonry Heritage Skills would gain experience in restoring dry rubble walls and damaged roofs. The two rooms required different interventions – one room had the back wall (rubble wall

type) which had fallen off due to rain water flooding whilst the other room had a broken seven foot long Malta stone slab (xorok) which had fallen from the supporting slab (kileb) and needed replacement.

These rooms were part of a tourist attraction at Selmun where an old dwelling can be seen a few metres away from the Selmun tower. The room with the damaged rear wall required that first the prickly pear tree adjacent to the wall had to be trimmed down and all the stone slabs which had fallen off had to be separated so that these could be reused. The work also necessitated



the propping up of the rear part of the room's ceiling so that this will not fall during the restoration work. Work was carried out under the supervision of lecturers Mr Alex Caruana and Mr Mario Schembri together with Perit Sarah J. Bilocca.

After the erection of the wall, the works also entailed the building of the last course so as to deviate the rain water to a newly made rain water spout.

The last part of the project was replacing the original roof – unfortunately, in the past, this was not laid to falls and ponding resulted with the resulting water ingress. The whole roof had to be dug up, laid properly and a new coating of deffun

was made.

The replacement of the Malta stone slab in the other room demanded a different type of intervention. Here only part of the roof needed to be uncovered so that the slab could be lowered in position. The length of the slab demanded that students had to be extra careful so as not to damage it during the replacement operation and also to lay it properly on the supports (kileb). However they managed to put it in place, repair the damaged roof and cover it with deffun so as to restore it to its original state as much as possible.



# Centre for Maritime Studies

The Centre for Maritime Studies (CMS), or Maritime Centre as it is commonly referred to, forms part of the Institute of Engineering and Transport. For many decades and since the amalgamation with MCAST way back in 2001, the Maritime Centre has offered a range of educational maritime programmes at different qualification levels, supporting both local and international demands in the maritime industry through proven qualified, experienced lecturers and mentors.

CMS offers students both full-time and part-time courses. One of the full-time courses is an introductory course leading to a Diploma in Deck Operations (MQF Level 3) with a study period of one academic year. Successful students may progress to a higher level such as the Advanced Diploma in Deck Operations (MQF Level 4) leading to ranking officers such as Officer in Charge of Navigational Watch. This latter course entails spending two academic years at the Centre with the third year undertaking twelve

months sea-time training onboard ocean-going ships around the world.

This will lead to an internationally recognised qualification, being the Maritime Certificate of Competency issued by the Shipping Directorate of the Transport Malta Authority since the Maritime Centre is accredited by this Institution (Transport Malta Authority represents the International Maritime Organisation). Further training leads the prospective student to higher rankings such as Chief Mate and even to Master Mariner (Captain) on achieving the ultimate full qualification as required by the maritime industry.

Concurrently with deck courses, the Maritime Centre also offers Marine Engineering courses. Here one can commence with an Advanced Diploma in Marine Engineering and progress to the BSc (Hons) in Marine Engineering.

Whilst students spend time in classrooms attending regular lectures, simulation exercises are offered as

a crucial element to understanding and familiarising with real operations before moving on to actual life at sea. This gives learners the opportunity to exercise in difficult and/or emergency situations where strict control of the vessel comes into force. MCAST has invested and set up three simulators: a state-of-the-art Bridge, a GMDSS and an ECDIS. The Maritime administration is now considering setting up a maritime engine room simulator for the Engineering Department.

In addition, the Maritime Centre offers STCW ancillary short courses and licences required to operate seacraft in local waters. These include licences for owners and operators of all kinds of boats. Other short courses are intended for port workers and local maritime entities where a significant training level is required.

MCAST CMS is building capacity to be able to deliver another three suites of courses related to the superyacht industry, with an Advanced Diploma in Deck Operations, an Advanced Diploma in Marine Engineering and an Advanced Diploma in Yacht Interior and Hospitality Operations. These courses will be pegged at MQF

Level 4 and will be delivered in both face-to-face and blended learning modes.

The Centre for Maritime Studies is committed to support and develop careers in navigation, marine engineering, management of ships and exclusive positions within the maritime industry.





# Department of Mechanical Engineering

## Industrial visits for students

Industry visits are crucial to the students' learning experience as they give them first-hand knowledge of practical engineering applications. They also give students an awareness of possible future career opportunities they will have once they graduate. During such visits, students also meet and discuss with industry technicians and engineers which broadens their knowledge on technical aspects as well as job satisfaction, working conditions and employer expectations. Student

groups are always accompanied by one or more lecturers who take the opportunity to explain technical topics discussed in the classroom in more practical terms. Student feedback on all organized visits has been most positive.

These industrial visits are both important and fun for the students and the Department is planning to organize a good number of similar activities.

# Institute of Information & Communication Technology



# MCAST Team develops a model to support the correct use of PPE by healthcare professionals

**by Gerard Said Pullicino**

One of the most exciting things about working at MCAST is the fact that there is a great talent pool of like-minded people working in similar fields. The development of an Integrated System for Advanced Donning and Doffing is a purely MCAST story in that an interdisciplinary team of researchers from different Institutes got together to build a prototype that functioned in a useful way to model a risky process in the time of a global pandemic, the Donning and Doffing of personal protective gear for nurses.

Before March 2021, the use of personal protective gear was an abstract idea, but as the first stirrings of the COVID pandemic began to hit, researchers from the Institute of Applied Science had to mobilize an army of student nurses to possibly

face infected patients as part of the mass COVID testing initiative that characterised the early days of the pandemic. Neville Schembri was involved in this process, and he was aware of the limitations of the current system that was being used to train nurses in donning and doffing, which was essentially a card showing the process step by step.

When dealing with infectious disease, the doffing process is actually the risky part, as the personal protective gear would likely be a possible vector for infection since it would have been used in contact with the patient. The concept of actually modelling the step-by-step process of both donning and doffing protective gear was discussed at that point, and an automated system that could monitor this was discussed.

ICT lecturers Daren Scerri and Gerard Said Pullicino were also interested in this area, and when Neville Schembri and his team of IAS nurses got in touch, a dynamic group of nurses and ICT programmers formed. MCAST is pioneering an internal process to promote research that allows MCAST lecturers to apply for research hours as part of their lecturing load. Such research hours, which can be funded via external funding / research initiatives, are administered by a team of Senior Research Officers, whose job is to find possible funding initiatives to be able to promote research internally at MCAST. When this idea was discussed, an application for funding was put together under the able guidance of Lorna Bonnici West, the Senior Research Officer in charge of the Institute of Applied Sciences.

The MCAST process then guided the lecturers into actually putting together a research proposal which was submitted to the MCST Research Excellence programme for funding support. The proposal was quite simple: could a prototype be developed that used AI and Machine Learning to process video in such a way as to support the process of donning and doffing for nurses?

With the funding available, and the support provided by MCAST as well as MCST, the answer was yes. The ISADD group, consisting of Phyllis Farrugia Abanfi, Jonathan Vella, Neville Schembri, Lorna Bonnici West and Dorianne Farrugia, as well as ICT lecturers Daren Scerri and Gerard Said Pullicino, successfully tested a prototype of an AI enabled donning and doffing monitoring system at Mater Dei Hospital, with nurses who were regularly donning and doffing giving their feedback on the use of the system.

The prototype, which is fully functional and usable, made a good impression on the hospital nurses, and it is hoped that further funding is procured to bring the prototype to a further level of refinement so that it can achieve medical certification and be able to be used functionally in hospitals to monitor and manage the donning and doffing process.



It is hoped that this sort of system can bring about a new form of computing, which is a user experience that is purely contextual. The use of image processing and AI can classify any objects that a person is manipulating in a way to identify the steps of the process that a person is doing, with a view to providing help and guidance as to the next step in the process that needs to be carried out. This can be used to train people in various different processes that are quite hard to do online, such as cooking, mechanical work, and processes that require the physical manipulation of objects that can be classified using AI.

# MCAST Gozo Campus



# Freshers' Day at MCAST Gozo Campus

For the first time, the MCAST Gozo Campus celebrated Freshers' Day on the 19th of October 2021. The students participated with great enthusiasm. Several organisations, both from the industrial sector and NGOs, participated in the event with their own individual stand. The students had the opportunity to visit the various stands and acquire knowledge on future employment and voluntary work opportunities. During the day various talks were organized and students had the chance to learn more about several opportunities in the business world.

The day ended with a clean-up event organized by GUG, KSM, and the MCAST Gozo Campus in collaboration with the Għajnsielem Local Council. This day was a memorable event which the students will remember in the coming years.

# Year 11 Outreach and Guidance Sessions

Following the appropriate health protocols, this year face-to-face outreach and guidance sessions could be held once again with Year 11 classes in the State and Church Gozitan Secondary Schools. Mr Matthew Xuereb, Student Support Services Coordinator (and Career Guidance), visited the three secondary schools in Gozo and delivered informative and career guidance sessions to Year 11 students, particularly about the vocational courses offered at the MCAST Gozo Campus.

Several sessions were held during the PSCD lessons at the Gozo College Secondary School, the Bishop's Conservatory Secondary School and the Sacred Heart Minor Seminary. During these sessions the students were informed about the various stages a student can commence at MCAST – from Pathway up to Level 6/7. Students were well versed on how the MCAST education and assessment system works. The importance of Work-Based Learning

was also highly emphasised.

The students had the opportunity to ask questions and were given contact information for booking individual guidance sessions during the current scholastic year or during the summer months, before and during the actual registration period.

# Visit by His Excellency Mgr Anton Teuma, Bishop of Gozo

On Wednesday 15th December 2021, the MCAST Gozo Campus was honoured with the visit of His Excellency Mgr Anton Teuma, Bishop of Gozo.

To commemorate this visit, the students and staff of the MCAST Gozo Campus took the initiative to instal a statue of Our Lady at the campus's main entrance. The statue, which was blessed by Bishop Teuma as part of his visit programme, was paid by donations and through activities organised by the students and staff, including a doughnut/muffin and hot chocolate day, which was immensely appreciated.

During the visit, His Excellency Mgr Anton Teuma toured the campus facilities and spent some time talking with the lecturers and students in lecture rooms and in the engineering workshops. Bishop Teuma has a special affinity with technical studies and is himself a certified electrician and welder. The visit was followed by the blessing of the statue of Our Lady

at the entrance of the campus. After the blessing, the students and the staff followed mass at Ġhajnsielem's Parish Hall. The mass was celebrated by Bishop Anton Teuma together with the Chaplain for the Gozo Campus Fr Vince Pavia, the Archpriest of Ġhajnsielem Fr Frank Bajada, and the MCAST Chaplain Fr Richard Ebejer SDB.

During the homily, the Bishop emphasized the importance of God's presence in every person's life and how God wants us to be happy. He underlined the fact that we all want to be happy as we all try to solve our problems to reach this happiness. Bishop Teuma emphasized that happiness is not something we find in someone else but we must all seek this happiness deep down in our humanity because that is where true happiness lies. This happiness comes from the fact that God loves each and every individual as he/she is and not as we should be... so we do not need to earn His love. If everyone around us shows a lack of faith in us

and sometimes this can come from our own family - God still puts all His faith in us. After the celebration of the Eucharist, the Bishop addressed the staff in a short meeting. He emphasised how hard it is to be an educator today and that he admired educators who, on a daily basis, worked relentlessly in their mission with students.

Bishop Teuma thanked God that most teachers still take their job as a vocation, not only by educating students academically or leading them to employment through which they can earn a living, but above all by seeing to the needs of the whole person and developing them holistically. He remarked that in today's world, the teacher could be the only person a student can reach, especially when the students come from rough backgrounds where they would not have experienced real love at home. Bishop Teuma emphasized that as educators, we must not bestow on students only academic content but we must think of the formation of the person's character. In today's world, the teacher needs to be a parent at school as well.

He concluded by thanking all staff for the hard work, emphasizing his admiration for all the teaching staff.



# New Chaplain at the MCAST Gozo Centre

As of October 2021, His Excellency Mgr Anton Teuma, Bishop of Gozo, appointed Fr Vince Pavia as the chaplain for the MCAST Gozo Campus.

Fr. Vincent Pavia was born in Victoria, Gozo on the 12th of August 1959. After finishing his post-secondary education, he entered the Sacred Heart Seminary in Gozo in preparation for the priesthood. After finishing his studies in Philosophy and Theology during the years 1977-1982, he went to England to work and study at Colchester University to become a qualified Child Care Officer.. He also did some years of work experience at Greenacres Children's Home in Colchester, Essex.

In the late 1980s, he worked as manager at the Gozo Branch of NSTS Student Travel. During these years he acquired an IATA International Air Transport Association Diploma from Geneva.

Fr Pavia studied at UPS Università

Pontificia Salesiana Rome, Italy from 1989 to 1993 where he acquired his MA in Philosophy and his BA in Theology. He was ordained priest by Bishop Nicholas Cauchi on the 10th of July 1993. For some years after his ordination, he worked as an assistant parish priest in Rome and was in charge of parish-based youth work in Rome and Poggio Mirteto.

Returning to Malta in 1995, he served as spiritual director at Sir M. A. Refalo Sixth Form in Gozo. In 1998 he became a full-time lecturer of Philosophy, Sociology and Religion in the same school. He worked at the Gozo Sixth Form until his retirement from teaching in 2021.

Fr Pavia is looking at this new endeavour with great enthusiasm and energy.

# Erasmus+ Projects & Mobility Office

The Erasmus+ Programme offers amazing opportunities for students who want to enrich their academic experience by spending a semester studying abroad.

During the Autumn semester of the academic year 2021-2022 MCAST students from different MCAST Institutes spent a semester abroad on an Erasmus+ Student Mobility for Studies. These students were given funding to study in partner institutions across Europe.

One such group consisted of three students from the Institute for the Creative Arts who are reading for a BA (Hons) in Photography. The students had the chance to spend a semester at the Pallas University of Applied Sciences in Tartu, Estonia.

The host university “offered an amazing range of creative and skilful artistic technique courses which were open to any of its students.” While students are only required to cover the 30 ECTS assigned for the semester, Ruby and Kurt both took on extra units, with Ruby applying “for as many as my timetable could stand” to make the most of her experience abroad.

Kurt said that he “visited many places of interest, ate a lot of food, and especially made a lot of friends from Estonia and with other Erasmus+ students as well,” while Ruby came back with stories of her travels all around Estonia:



***“From travelling to the southern region and experiencing their cold forests and swamps, to trying as much local food and drink as I could stomach, and volunteering at a traditional printing museum, TYPA, where I had the opportunity to meet so many artists and help them hold their exhibitions as well as my own. I also visited as many of Estonia’s cities and islands as I could, and never shied away from understanding more of the country’s history. Immersing myself into the local culture was a wonderful thing to experience, and after the first month I found myself calling it home.”***

For more information about Erasmus+ Student Mobility for Studies, contact Ms. Jodie Bonnici, Erasmus+ Coordinator at the MCAST Erasmus+ Projects and Mobility Office:

**t.** +356 2398 7308

**e.** [Jodie.Bonnici@mcast.edu.mt](mailto:Jodie.Bonnici@mcast.edu.mt)

# What do the students say about their experiences abroad?

## MY EXPERIENCE IN POLAND BY AROOSA SHAHID

"I have completed my two-month placement in Wojewodzki Szpital Specjalistyczny in Poland. The placement took place from the 21st June 2021 till 27th September 2021.

It was an incredible experience. I was given a fantastic opportunity to improve my nursing skills and knowledge in my area of study, which led me to be more confident in myself and my obligations. I demonstrated self-assurance, compassion, person-centredness, and ethical patient care while acknowledging the complexities of the profession. I maintained professional conduct and kept expected professional standards. The employees at both the hospital and the institution were very supportive. They welcomed us with great enthusiasm. The

medical students were always willing to assist us.

My favourite placements were the three weeks I spent at the Emergency Department and the three weeks in the Neurosurgery Department, both of which allowed me to learn more skills and gain more confidence. The doctors and other health professionals were all very helpful. Working together with all of them was a fantastic experience. All of the health professionals gave me really positive reviews.

During my stay I also discovered more about the Polish culture and also picked up on a few Polish words so that I could communicate better with my patients."



“

**This was an enriching experience for me and I would definitely encourage anyone to participate in an Erasmus+ programme.**



# Graphic Design student participates in traineeship in Leeuwarden, the Netherlands

Habtom Tsigehans is an MCAST student reading for an Advanced Diploma in Graphic Design and Interactive Media at the Institute for the Creative Arts. Habtom carried out an Erasmus+ traineeship in the Netherlands between the 2nd September 2021 and the 29th September 2021. This mobility was funded through the Erasmus+ project 'Vocational Education and Training Into the Future' (VETIF).

Habtom carried out his placement in Leeuwarden at Stichting Learning Hub Friesland through the support of MCAST partner Friesland College. As a graphic design student, at the Learning Hub Habtom had the chance to improve his skills further. He created a brand style guide and redesigned a logo for Story Valley.

During his internship, Habtom

created a website banner, email signatures, a book layout for print and also a postcard. He learned new skills such as how to create or build a new website by using Wix. He had the opportunity to learn to add code to a website in different ways. This traineeship was an opportunity for Habtom to learn how to communicate with clients and partners through virtual meetings and in person.

***"The skills that I gained from this work experience are invaluable.***

***I adapted to a new culture, language and got the chance to interact with new people. This has helped me to become more open minded while having fun at the same time."***

The internship was a great experience for Habtom, which not only helped him improve his skills but also gave him the opportunity to discover a new culture and make friends from different backgrounds during this month long Erasmus+ traineeship.







# CCC – Climate Challenge in Construction

This KA2 project, funded through Erasmus+, includes the participation of five different vocational colleges hailing from five different European countries including Germany, Spain, Sweden, Ireland and Malta.

The aim of this project is to raise students' awareness on climate change in the construction sector by sharing and comparing knowledge of common building procedures, material properties as well as new technologies.

The project commenced in November 2021 and will be

concluded in 2023. The kick-off meeting was held between the 9th and 13th November 2021 at Max Born College in Recklinghausen, Germany. Two staff members representing MCAST at the meeting were Mr Christian Brincat and Mr Mark Attard. They were present for a learning and training session on Sketchup software, to discuss the overall aims of the project and to plan how it will be implemented with the MCAST students.

During the project students will have the opportunity to compare recently built buildings from a historic



perspective as well as discover examples of best practices in the participating countries. The students will be involved in a complex learning system, in which they will be asked to present their learned knowledge in a virtual climate museum setting. Throughout the project, a set of devices will be used to enhance the digital competencies of the participants.

In each meeting the participants will learn about different concepts, technologies or methods dealing with sustainability in the construction sector and this newly acquired knowledge will then be used to create a virtual exhibition. The main activities are connected to the gaining and sharing of information using different research strategies. This will be done by looking at sights and places connected to the project in each partner country, by listening to lectures or guides, by searching the internet, and by dealing with expert knowledge on particular topics at different levels.

This information will be processed by the students to present it to each other and to a larger community. The students will also gain practical knowledge

in workshops. Furthermore, the idea of job shadowing among the teachers is also part of the project. One of the major activities will be the creation of the virtual climate museum so that the students will learn how to use Sketchup to create virtual rooms representing the participating countries and create an exhibition space. The participants will be able to extend their individual competencies and social skills in quality and in quantity throughout the project.



# Lecturers' experiences

ERASMUS+ is a fantastic window of opportunity to share knowledge in teaching experiences. Lecturers can also observe various teaching methodologies as a framework of options in the relationships between teacher and learner.

Mobility programmes help lecturers delve deeper into the implementation of MCAST business programmes at the Institute of Business Management and Commerce, both from an interdisciplinary and a topic-specific nature. The result is a fruitful insight into comparable practice with other European countries that benefits the lecturer and ultimately their students.

Lecturers Leo Spiteri and Luke Vella both completed ERASMUS+ mobilities in 2021. Mr Spiteri visited several vocational institutions in the Emilia-Romagna region in Italy in relation to marketing and digital marketing courses. Mr Vella completed his training at the University of Odisee in Brussels,

Belgium and was directly involved in finance related classes.

Both lecturers hail from a business background and the units they teach at MCAST are embedded across various business courses and disciplines. The lecturers observed some similarities. In Italy, they focus more on the oral part of presentations, whilst in Brussels, Mr Vella observed that they are more engaged in theoretical teaching and delegate research tasks to the students during their lectures.

They shared with us some reflections on their experiences.

## **Leo Spiteri** **Emilia Romagna Business** **Vocational Institutions**

Having visited Bologna soon after most of Europe was emerging from a series of lockdowns, it was interesting to observe how Italian educators were tackling the new

reality of blended and hybrid learning. Lecturers admitted that this was not always an easy feat especially when teaching certain practical parts of the digital marketing syllabus. This was exacerbated even further when more technical subjects like augmented and virtual reality (Fitstic Digital Institution, Bologna) were being taught. The lecturer would need to observe the work of students in real time, but this was tackled effectively by the use of software like TeamViewer.

Marketing and digital marketing are subjects that are very much alive and dynamic. As various educational scholars attest, they can be taught using various examples, case studies, and real-life scenarios. It was interesting to observe how this materialises in Italian classrooms and also to observe a very particular teaching method that is completely student-led and very innovative - the flipped classroom approach. The class was completely online, which is already a challenge in itself. The lecturer presented a scenario from Italian multinational corporation Ferrero and their digital marketing practices. She sparked a debate, encouraging the class to conduct online research to find



digital solutions for this company. Throughout the whole duration of the class, she simply served as a moderator.

I was genuinely and pleasantly surprised, having the initial misconception that vocational education in Italy would be very teacher-focused. Perhaps, what I gained the most from this experience is the effective way that the training gap between teaching e-commerce and the marketing industry is addressed in the Northern regions of Italy. A notion from which we can learn a lot and implement at MCAST, by working with real-life scenarios from local companies. On this note, a link was also observed between strategic marketing and content marketing, two facets of marketing that are usually treated separately in marketing units. Online classes consisted of hands-on experience using Content Management Systems (CMS) software like WordPress. This was then complemented by content marketing and blog writing, which was finally presented by students during the class itself. A lot of emphasis was placed on the oral part and presentation, even

in the assessment itself. Hence, it comes as no surprise that Italian business students are very well equipped with certain transversal skills like critical thinking as well as presenting their arguments and working well in a team.

My experience of ERASMUS+ in Bologna was a memorable one that taught me so much and which I reflected on in my teaching at MCAST.

**Mr. Luke Vella**  
**University of Odisee – Brussels**

The time spent at Odisee University of Belgium has helped me realise and appreciate the professionalism and work ethic we adopt at MCAST. The procedures at MCAST are in line with the Belgian education system, which is one of the best in Europe. During my time at the University, I had the opportunity to observe various lecturers providing lessons. It gave me great pleasure to realise that the teaching techniques I adopt in my classroom are also utilised by lecturers forming part of the leading educational system in the EU. I felt that I would fit in well in the place of work at the



University due to the extreme similarities between both workplaces. Something which I will be adopting in my classroom and lecturing delivery is the students' involvement, for which they coined the term, 'outsourcing of lecturing duties.' I noticed that the students were given research on topics that would need to be covered in the following weeks. The students would be tasked to research the topic and provide an explanation of the topic to the other students. The students would be given a peer assessment form to assess each other. The role of the lecturer in all this is monitoring the process, ensuring that the research and presentation being done are correct. This mobility experience was definitely a positive one that has impacted me in various ways. It provided me with much appreciation for our own organisation, MCAST, in viewing that our practices and work ethics are practised in a university whose education system is outstanding. Secondly, this experience has also given me the opportunity to further include students during my own lectures, changing the online classroom dynamics to a more student-centred approach.

# Quality Assurance Department



**Malta: A Practical Toolkit for the Implementation of the European Qualification Assurance Framework for VET by Ing Pierre Dalmas, Deputy Principal Quality Assurance and Student Academic Management**

**The Malta College of Arts, Science and Technology (MCAST) is one of the consortium partners developing a standardised practical toolkit to implement the European Quality Assurance Framework for Vocational Education and Training. The standardised toolkit is based on the International Standard ISO 21001 “Educational Organisations: Management Systems for Educational Organisations – Requirements with Guidance for Use” and is targeted to the needs of the stakeholders in order to help them adopt and implement the EQAVET Criteria.**

Although EQAVET was published as a European recommendation a decade ago, its adoption by the VET market has yet to fulfil its full potential due to a number of causes. On the other hand, the scope of ISO 21001 includes all EQAVET indicative descriptors at the VET provider level and provides more detailed requirements specifically targeted to improve the key processes of educational organisations. The standard could hence be used to further guide and improve the quality assurance at the VET provider level.

The KA2 Erasmus+ project “VET21001: A standardised approach to implement the European Quality Assurance Framework for Vocational Education and Training” is providing the educational sector with solutions that will mitigate those causes in order to increase EQAVET adoption by the VET/HVET organisations. The objectives of the project are being implemented by a consortium composed of six partners from four countries: Malta, Italy, Portugal and Slovenia. Together, these partners will collaborate to deliver the following five intellectual outputs (IO), namely (also refer to the schematic in Figure 1 below):

- IO1: Identify the difficulties felt by EQAVET users in interpreting and/or implementing the EQAVET criteria;
- IO2: Determine the adequate competence profiles for EQAVET implementers and evaluators;
- IO3: Design curricula that can be used as open-source pedagogic material for capacity-building programmes for implementers and evaluators to become EQAVET professionals;
- IO4: Determine the rules for an accredited certification scheme for EQAVET and joint EQAVET-ISO 21001;
- IO5: Develop a standardised practical toolkit that will facilitate and support EQAVET criteria implementation by VET/HVET organisations.

MCAST leads the development of the VET21001 Toolkit (IO5). This output takes the form of a manual divided into thematic chapters and composed of independent elements that the users will be able to easily find and apply. Based on the guidelines contained in ISO 21001, the consortium will develop a set of documented information to support the implementation of EQAVET. This may include:

- Frequently asked questions (FAQs) and objective, practical replies to them;
- Leadership documents to boost corporate identity, such as mission and vision statements; quality principles and policy statements; quality objectives and methodologies to define, monitor and achieve them;
- Strategic approaches to manage risk and sustainability, such as methodologies to identify and monitor internal and external contexts; stakeholders’ needs and expectations; non-conformity, risks and opportunities.

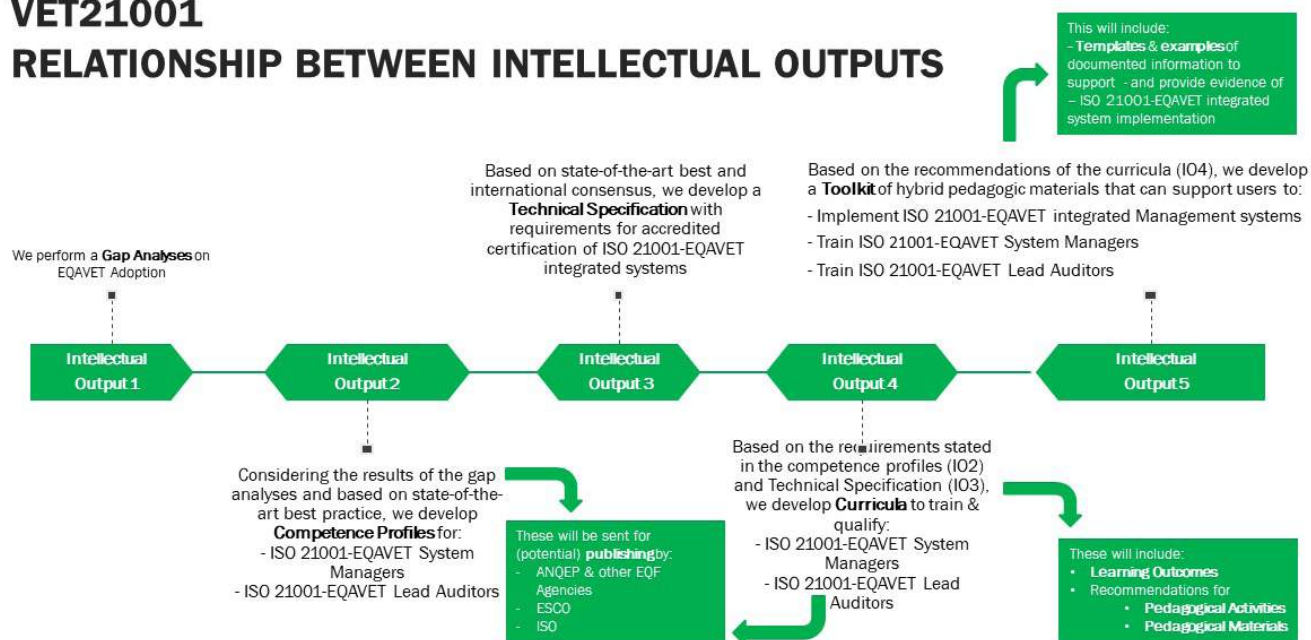
The innovative aspects of the VET21001 Toolkit approach and the practicality of its content are aimed towards contributing to the increase of EQAVET adoption. The College and a number of other partners will test elements of the VET21001 Toolkit elements in order to verify and validate the effectiveness of the EQAVET Toolkit.

The consortium will publish the VET21001 Toolkit with an ISBN on the project website as an open resource for download by users and will suggest the EQAVET network do so as well.

Each partner will also contact their national agency/organisation(s) responsible for EQAVET implementation and offer them the VET21001 Toolkit, suggesting its dissemination through their own networks and media channels

## VET21001

### RELATIONSHIP BETWEEN INTELLECTUAL OUTPUTS



**Figure 1:** Schematic illustrating relationship between the five intellectual outputs of the KA2 Erasmus+ Project “VET21001: A standardised approach to implement the European Quality Assurance Framework for Vocational Education and Training”.

Link to the project website <https://vet21001.eu/>



# Discovering new PhD studies at MCAST

## ALISON J. ZAMMIT - INSTITUTE OF APPLIED SCIENCES

Water scarcity, flood warnings and stormwater runoff lost at sea are common discussion points in Malta. My PhD project, supported by the Institute of Applied Sciences, aimed to investigate the suitability of stormwater runoff from Maltese urban catchments. Stormwater reuse would reduce pressure on conventional water resources, decrease water scarcity and promote stormwater runoff as a resource. Indirectly this would also reduce flooding because the runoff would be stored rather than rushed to the sea.

Unlike other reuse studies, this project took the conceptual model of source, pathway and sink to study the effect of different land-uses on contamination sources and water quality of stormwater runoff in a Maltese catchment. Sediments were sampled from various roads (industrial, main roads, residential and rural), stormwater infrastructures and watercourses.

These were analysed for heavy metals (copper, iron, nickel, lead, and zinc) using the flame atomic absorption spectroscopy (AAS) at the Institute of Applied Sciences.

It resulted that the highest concentrations of metals were found in roads of industrial estates (median concentration for iron and zinc was 1.312 and 0.179 mg/g respectively) and main roads (median concentration for copper and nickel was 0.119 and 0.030 mg/g respectively), but interestingly lead was found mostly in the sampled residential roads, with a median concentration of 0.081 mg/g. Iron had minimal changes between the different sediments, suggesting iron to be of geological origin. Spatial sediment concentration analysis linked copper and zinc to urbanised areas and most likely originates from vehicle use.

When sediments from different roads were compared with sediment

transported through the catchment (stormwater infrastructures and watercourses) it showed that lead and zinc concentrations increased but copper and nickel concentrations decreased in the transported sediment; a possible indication that lead and zinc prefer to be sorbed to the sediment whilst copper and nickel leach out in water. Such has implications on the bioavailability of these heavy metals to the pelagic and benthic aquatic species.

When stormwater runoff was studied, there were three major findings. Firstly, stormwater runoff water quality was highly variable in between storms and during the storms. Secondly, heavy metals and chemical oxygen demand increased with turbidity. This links stormwater contamination with sediments. Nitrates concentrations were incredibly low, and conductivity was not of major concern. Third and final finding, was that of elevated level of faecal contamination in the runoff, especially during large storms. This highlights the problem with animal faeces disposal and overwhelmed sewage system.

Stormwater reuse for irrigation and managed aquifer recharge is

possible with treatment, but most of all, this study shows that the lack of rainwater harvesting, improper disposal of animal faecal matter, overwhelmed sewage system and high usage of vehicles are decreasing the potential of stormwater reuse within the community.

# Graduating at 77 years old

**CAROLINE BALZAN CAUGHT UP WITH WALLY TERRIBILE TO SEE WHAT INSPIRED HIM TO JOIN MCAST AND FURTHER HIS STUDIES AT 77 YEARS OF AGE.**

## **What course did you enrol in?**

I enrolled in the Master in Business Administration for Small Businesses.

## **What made you decide to enrol for this course?**

I once received the MCAST Part-time Courses Prospectus through the post and while going through it I was immediately interested in enrolling for the Master's degree. I had read for a Master's degree in Business Administration twenty years ago yet thought that the degree delivered by MCAST was different as it specifically addressed small businesses, which are plentiful in Gozo. I felt this was the course for me!

I believed that reading for this degree would provide me with more knowledge on micro enterprise start-ups. Taking into account that Gozo is a small island with a population of about 32,000 inhabitants, I felt I could use the knowledge learnt.



Furthermore, I also wanted to explore the kind of impact a business incubation centre would leave on business enterprises in Gozo.

My continuous pursuit of knowledge was one of the driving forces that also led me to enrol in this Master's programme.

## **How would you describe the course?**

The course was delivered on a span of two and a half years at MQF/EQF Level 7 qualification.

The Master's degree programme included modules related to Applied Research, Entrepreneurship and Innovation, Business Analytics and Strategy, Marketing and Development. I had already studied a few of these modules in my previous degree yet things changed a lot in twenty years and there was so much more to learn and discover!

The lecture room environment was ideal and the lecturing staff superb. I only have words of praise for all my lecturers as their delivery on the subject matter was flawless and very professional. I would like to give merit to Dr Alex Rizzo and to Dr Ronald Aquilina. I am sure they strived to solve many obstacles that stemmed from unforeseen circumstances, especially due to COVID-19.

Looking back, I can say that I enjoyed reading for this degree as it provided me with new knowledge and new friends.

**What do you plan to do now that you have completed your course?**

I live day by day. To be honest I miss meeting my colleagues during the weekend at the MCAST Campus. At night I look at skies full of stars.

I am tempted to enrol in courses in Astronomy, Theology and also Maltese History.

**What advice do you give others on lifelong learning?**

I do not think anyone can ever reach a point in their lives where they can say, "I have learnt enough." I feel like I have only just started to learn.

It is true that growing presents certain limitations. I must admit that I have also my limitations. But in life what counts is the spirit that is inside you. One cannot say to oneself that we have learnt enough. Spare time can be used as wisely as it can be used foolishly; it is a matter of personal choice. I do not consider reading for a certificate, a diploma or a degree a waste of time. I really do encourage any person who has the time to spare to pursue their studies. I hope that more people continue to pursue their education, no matter the barriers that they face.

My father once told me that, whatever you learn in life, you will take it with you to the grave. I have always believed in pursuing experiences and knowledge and sharing them in the best way one can. Once you decide to do that, do not look back.



# Learning Support Unit

## Moving towards the future: The Community College for the Third Age

**BY MS CASSANDRA STURGEON DELIA**

The pandemic has affected us all (Sibley et al., 2020); however, for those prone to isolation, such as older adults living alone, the pandemic has had detrimental effects on their mental health and wellbeing (De Pue et al., 2021). A local study carried out by the Directorate for Health Information and Research in 2012 revealed that the prevalence of social isolation in older adults stood at 40.3% (Directorate for Health Information and Research, 2012). During the pandemic, older adults had to self-isolate, resulting in less time spent with family and friends and more time alone. Currently, one can only speculate that social isolation and loneliness have increased in older adults; however, locally no existing research has been

published at this time of writing. Social isolation is an area of inquiry due to the adverse physical and mental issues resulting from this phenomenon. The CDC states that social isolation significantly increases a person's risk of dementia (50%) and premature death ("Loneliness and Social Isolation Linked to Serious Health Conditions", 2022).

The Community College for the Third Age, run by the MCAST Learning Support Unit (LSU), is determined to reach older adults within the community to join the ongoing weekly course intended to promote productive ageing. This course has been running since 2019 to promote the concept of active ageing and provide a space for older adults to



socialise and learn. The course offers a wide array of topics, including health, art and literature, combined with site visits to connect to the community.

The Community College for the Third Age is determined to expand and has reached out to neighbouring local councils to collaborate and increase its services. On the 3rd February 2022, the Community College for the Third Age hosted an event bringing together the local councils of the South Eastern region to discuss ideas on collaborating to fill the community's needs. This event was intended to bridge the Community College for the Third Age and the neighbouring areas in the future.



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# MCAST Applied Research and Innovation Centre

## Think Smarter – Porting People

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### **What are the MCAST researchers currently working on?**

PORTING PEOPLE and the concept of Telepresence through robotics is one of the research projects currently being worked upon by members of the MCAST Research and Innovation Team.

### **Why is this type of Telepresence Robot research important?**

It has excellent use in education environments when students or members of staff are unable to be present due to sickness or mobility issues.

### **What are the benefits of this Telepresence Robot?**

- Multiple viewpoints due to the tilting of the screen
- Dynamic
- Provides increased immersion
- Shared screen
- It is more applicable for certain scenarios
- Creates an online platform
- Interactivity of user
- Manipulation of the environment



## Who is behind this project?

### **Dr André Attard – Project Leader**

Dr André Attard, a recent PhD engineering graduate from the University of Strathclyde, Glasgow, joined MCAST in 2020 as a Senior Research Officer within the Applied Research and Innovation Centre (ARIC) to fulfil his role of supporting the Institute of Engineering and Transport (IET) with the management of active research projects while also encouraging the uptake of research in other emerging fields of engineering. The IET covers a diverse portfolio of engineering fields, from the conventional Mechanical and Electrical streams to the contemporary Mechatronic and Aerospace streams. Research within the IET currently covers vast areas of engineering, such as identifying novel methodologies to study fluid flow phenomena, research using Earth Observation imaging modalities to forecast Mediterranean weather and to study the vegetation patterns in the Maltese Islands, studies of the properties of materials subjected to high-velocity impacts, and much more. Dr Attard, who actively works towards bridging the gap between technology and education, embarked on leading this



ERASMUS+ KA2 project due to the project's potential in establishing this telepresence robotic technology in an educational context, thus placing MCAST on the map with other leading European institutions in the ongoing EdTech revolution.

### **Dr Ing. Clifford De Raffaele**

Dr Ing. Clifford De Raffaele is the Director of Research and Innovation at MCAST, responsible for the vast initiatives stemming across the organization as well as setting the strategic direction of MCAST towards pursuing research opportunities. Within the Applied Research and Innovation Centre (ARIC), he leads and motivates a highly dynamic and proficient core team of colleagues, who together have transformed the R&I landscape at MCAST. Through the conceptualization and implementation of the MCAST Research Framework, he has driven a cultural change within the institution, with over 100 research-active academics and 87 externally funded collaborations originating within a couple of years. Clifford's experience in academia and senior management, coupled with his passion and studies in Engineering and Computer Science, support his proficient efforts to develop

and instigate research and innovation, whereby he has also directly contributed towards the establishment of an AI Strategy for MCAST, an EdTech Innovation Framework and a Master by Research programme across the institution. Clifford further contributes academically through lecturing and supervision of postgraduate students through various degrees at MCAST, as well as holding tenure as a visiting Senior Lecturer at Middlesex University.



## Mr Edwin Zammit

Mr Edwin Zammit is currently the Deputy Director for Innovation within the Applied Research and Innovation Centre at MCAST. He oversees projects that fall under the MCAST EdTech Innovation framework together with projects that fall under the innovation sphere. As a leading member of the team designing the MCAST innovation model adopted by the MCAST ARIC, he considers innovation as a pivotal driver thus pushing MCAST closer to its strategic objectives. Innovation will support MCAST in its aim to enhance the student learning process and advance in new directions and with new methodologies.

Edwin actively works in consolidating MCAST's structures and services using established innovation models to propel the organisation into the 4th Education revolution. Together with other MCAST staff members, he works on implementing EdTech (educational technologies), that is a cluster of disruptive technologies that significantly alters the way that users and industries operate. The current areas of focus include blended learning, augmented reality, virtual reality, VET & Tech visualisation, assisted reality, telepresence robotics

and artificial intelligence. Such works aim to pre-empt the ever changing students' expectations in educational engagement along their student learning pathway. Technology has an important role to play in bringing innovation within the MCAST ecosystem. Nevertheless, Mr Zammit highly values the importance of the pedagogical enhancements brought by the technology. To this extent he brings over 10 years of teaching experience. His management experience within MCAST supports him in his endeavour to build an EdTech culture within MCAST by creating networks of like-minded people within the MCAST community.



### **Mr Abduarahman Bazena**

Mr Abduarahman Bazena is a first-class Computer Science (Systems Engineering) Honours degree graduate from Middlesex University. He recently completed his Master's dissertation in Data Science focusing on the use of deep learning technologies within technology-enhanced learning. Abduarahman has worked as a researcher, a systems architect and engineer on a wide range of research projects spanning from medical device engineering to computer vision, natural language processing, and emerging technologies such as VR, AR and robotics. His grasp on a wide variety of concepts and technologies

brings a diversity of knowledge and an opportunity to be involved at the cutting edge of technology. Abduarahman is actively engaged in several research projects with networks of academics and industry professionals from various fields' expertise. In addition, Abduarahman is a cross-functional researcher within the applied research and innovation centre research team, supporting several externally funded research projects and being the technical lead of the internally developed EdTech applications.





## Technical specifications of the Robot

3D printer

1 camera for interaction

1 camera for navigation

2-way speaker

## MCAST is creating its own Robot Kit

MCAST has teamed up with different partners to create its own Robot Kit. MCAST is the lead partner in this project. The robot would be assembled and used as a telepresence robot and will only cost around 200 Euro to purchase.

**Duration** – 3-year project from March 2021 to March 2023

1st phase – building the foundation

2nd phase – development of policy and guidelines for the effective use of this robot.

**Budget** – 300,000 Euro





# Over 100 studies showcased at the MCAST Research and Innovation EXPO

Over 100 researchers showcased their work at the third edition of the MCAST Research and Innovation EXPO held on 20th and 21st December 2021. MCAST has radically strengthened its research agenda recruiting ninety-six researchers over the past two years.

The Applied Research and Innovation Centre organised this EXPO in order to stimulate and drive applied research and innovation amongst the College's six Institutes,

to strengthen relationships with industry and local entities and build new partnerships with international institutions. While the research encompasses a wide spectrum of fields and thematic areas, the collective aim of this research is to lead to business development, create transfer of knowledge and develop prototypes. This work is at the centre of MCAST's growth aspirations, guiding knowledge creation and dissemination across the College.

During his address at the EXPO, Minister for Equality, Research and Innovation Owen Bonnici said: “With research being so versatile within the College, MCAST has become a hub of research and innovation thanks to the various research funding schemes available, with researchers from all Institutes coming together to carry out research work to address the United Nations Sustainable Development Goals.”

Principal and CEO Professor Joachim James Calleja added that, “This year was significant for MCAST as we launched our new strategic plan covering 2022-2027 and the first Research Doctorate in collaboration with the Chamber of SMEs and Richmond Foundation. Today’s event signalled MCAST’s strategic resolve to continue its support to research and innovation by engaging a wider spectrum of lecturing staff on specific research projects. Over these last three years, evidence shows that research at MCAST is diverse, applied, and focused on the needs of industry and the community. Research findings must have an applied standing with a potential impact on the quality of life of people.”

The abstract book published for the event shows a unique set of research

topics that range from Maltese popular music to a study on dolphins, virtual-based teaching, boutique hotels, drones for agriculture, electric vehicles, climate and environmental risks for the Mediterranean ecosystems and telepresence robots in education among many other areas of research.

The research presentations were centred on four main themes, demonstrating the versatility within the College: Emerging Technology and Creative Innovation; Social Well-being, Sports and Health; Quality Pedagogy and Effective Learning; Environmental and Cultural Sustainability.

All presentations were live on campus and online. This allowed participants to attend and engage in questions and discussions through live-streaming, and increased the active attendance and involvement of lecturers, students, and industry partners.



# MCAST develops Atmospheric Observation Toolbox (AEROTOX) to predict Saharan Desert dust clouds over the Maltese Islands

MCAST researchers are currently closing off the AEROTOX project, a €150,000 externally funded project in collaboration with 4Sight Ltd. The AEROTOX project investigated the possibility of using satellite imagery to predict the movement of Saharan desert dust clouds over the Mediterranean region.

Air pollution is an important factor that determines the inhabitants' quality of life. One of the more natural pollutant events in Malta is dust storms from the Sahara Desert. The Sahara Desert, one of the largest sources of dust on the globe, impacts several activities. Hot dry air from the South East brings forth the distinctive brownish-red dust clouds. These dust clouds travel across Northern Africa and onto the Mediterranean Sea using the Sirocco winds as carrier. The Sirocco

winds are usually characterised as hot, dry desert air over Northern Africa, flowing northward into the Southern Mediterranean basin. As the air travels northward across the Mediterranean Sea, the Sirocco picks up a lot of moisture because of its high temperature and forms clouds that later deposit the Saharan dust during seasonal downpours.

Sirocco events tend to occur all year round without a favoured month or season. Dust storms, although not very frequent, are relatively common and their effects are felt by the entire Maltese country. Dust laden wind and rain from the Sahara Desert carry with them several particles composed of different sizes of chemicals and minerals. These particles affect transport and communications due to the visibility of airports and shipping



lanes becoming very poor as a result of the dusty conditions which might also result in damage to specialised instruments and equipment. Health wise, the dust in the air produces dry skin and cracked lips, and presents more serious problems for asthmatics especially due to the quartz content of the dust which can lead to silicosis, a lung disease caused by the high content of quartz in the air. Renewable energy efficiency is also impacted negatively due to the reduction of solar rays arriving on the ground as a result of the dust clouds.

While it is virtually impossible to eliminate or mitigate natural sources of pollution, such as these dust-laden winds, using satellite earth observation technology, these dust plume events can be monitored in a quasi-real-time fashion. The path that these dust plumes may take can be predicted using state-of-the-art forecasting algorithms. The AEROTOX project focused on creating a set of predictive tools that automatically forecasted the dust plumes from the Sahara Desert and subsequently visualise these forecasts on the project's online platform for the end-user in the public domain. Researchers at MCAST and 4Sight, with experience

in the field of Earth Observation and Atmospheric Science and Modelling, used images captured by the Copernicus Sentinel 5p satellite for their forecast models.

The Sentinel 5p satellite, which was launched in 2017, is the first atmospheric monitoring mission within the European Union Copernicus programme capable of monitoring trace gas concentrations for atmospheric chemistry and climate applications. It houses the TROPOspheric Monitoring Instrument (TROPOMI) which uses a combination of onboard sensors and bespoke algorithms to generate daily Aerosol Optical Depth (AOD) data sets for the scientific community (Figure 1). AOD provides an estimate of the number of aerosol particles smaller than 2.5  $\mu\text{m}$  in diameter present in the atmosphere. The AOD data was selectively extracted and processed by the AEROTOX research team and used to automatically predict the Sahara desert dust cloud path over the south Mediterranean region at a very high resolution of 7x3km per pixel.

The prediction model core algorithms which were developed by the AEROTOX team utilised the

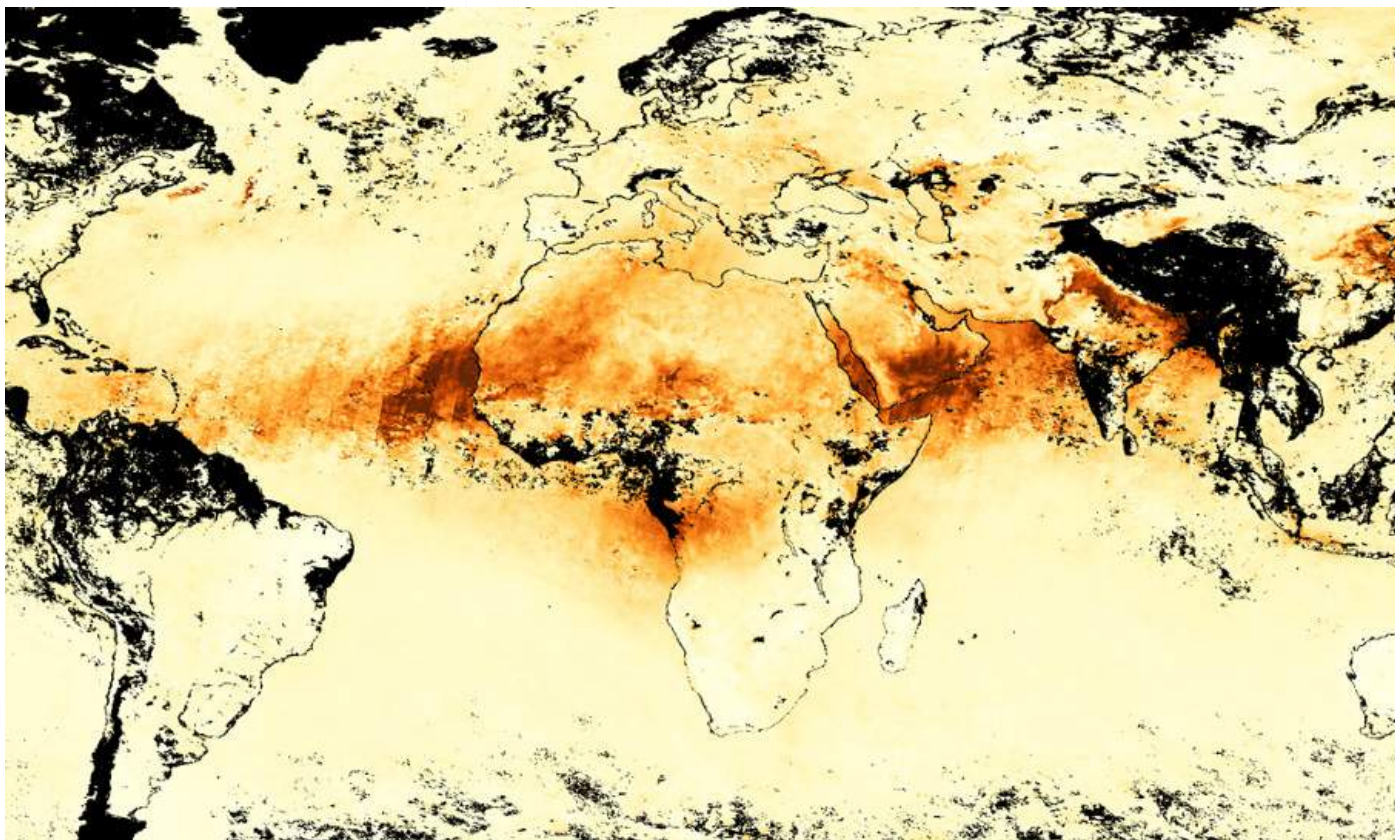
Weather Research and Forecasting model coupled with Chemistry (WRF-Chem) and a three-dimensional variational (3DVAR) system. The Sahara desert dust-cloud hourly forecast product will be made available for free on the project's website (<https://aerotox.net>).

The benefits emanating from this project extend beyond the boundaries of the project and provide the general public with an opportunity to check daily the Sahara Desert aerosols prediction for the week to come, and therefore take the necessary precautions accordingly. Such a system would also be beneficial for the Malta Health Directorate as it would allow them to take the necessary medical mitigating actions to prevent associated risks.

Dr Ing. Joseph A. Zammit, the Principal Investigator of the AEROTOX project and a Senior Lecturer II at the Department of Electrical and Electronics Engineering (IET) showcased the project at the 11th ESA Satellite Training Conference and also to the MCAST staff and student community during MCAST's annual research events, namely the MCAST R&I Expo in 2020 and 2021 (Figure 2). Apart

from promoting STEM education for future generations of researchers, this project enhanced the College's knowledge in Meteorological Forecasting techniques, GPU processing, High-performance processing, Analysis of big data, Artificial Intelligence and Smart Systems. This project is another example of MCAST's growing drive for research which reflects on the student community as it provides them with an experience of scientific excellence and opportunities of broadening their innovation capabilities.

The AEROTOX project is financed by the Malta Council for Science and Technology, for and on behalf of the Foundation for Science and Technology, through the Space Research Fund under Grant Agreement No SRF-2019-IS2.



**Figure 1:** A typical Aerosol Optical Depth (AOD) map visualising the concentrations of PM2.5 particulate matter in the atmosphere. [Legend: Dark brown pixels show high aerosol concentrations, while tan pixels show lower concentrations, and light yellow areas show little or no aerosols. Black shows where the satellite sensor could not make its measurement.] - Imagery produced by the NASA Earth Observations team based on data provided by the MODIS Atmosphere Science Team, NASA Goddard Space Flight Centre.

# MCAST Graduation Ceremonies

## GRADUATION CEREMONIES FOR 899 NEW GRADUANDS

MCAST graduation ceremonies were held at MCAST from 29th November to 9th December 2021. In total 899 students graduated in courses ranging from MQF level 5 to MQF level 7.

The graduation mass for 2020–2021 graduands was held on Thursday 25th November at St John's Co-Cathedral. It was concelebrated by Archbishop Charles Jude Scicluna and members of the MCAST Chaplaincy Team.

Present for the ceremonies were graduands from MCAST's six Institutes, the President of the Board of Governors Professor Ian Refalo, Principal and CEO Professor Joachim James Calleja, Deputy Principals, the Registrar and Directors.







# Farewell to Donald Friggieri

**DONALD FRIGGIERI – AN APPRECIATION BY CAROLINE BALZAN**

Donald Friggieri or, as we all knew him, 'Mr Friggieri' was a pioneer in the appreciation and study of Design in Malta and a true and passionate educator for over 30 years. He shaped and mentored several generations in Design, which was his passion, a passion he would share fervently to his last days.

He started his career as a teacher way back in the seventies, when he was awarded a scholarship to Middlesex Polytechnic from where he obtained a BA (Hons) degree in Three-Dimensional Design. In 1993 he was appointed Head of the Art and Design Centre where he continued to instil a passion for Design through his leadership and management of that institution. In 2001, he was appointed the first Director of the MCAST Institute of Art and Design (currently the Institute for the Creative Arts) and was instrumental in the smooth transition from the Art and Design Centre to the MCAST

Institute of Art and Design in Mosta. After a number of years as Director of Institute, he was appointed Consultant to the Principal.

Mr Friggieri was a jovial and righteous man. He had a great sense of humour and was great company to be around. He was disciplined, yet at the same time fair and down to earth. He will continue to be remembered for his words of wisdom. Mr Friggieri was in love with knowledge, very well-read and could have a deep conversation about many subjects. He was also a prolific writer and an inspiration to many people!

Rest in peace dear Mr Friggieri.

Our sympathies to his beloved family.

# In Memoriam of a True Gentleman

BY ANTHONY SALIBA

When I recently learned about Donald Friggieri's health challenges, I prayed for his needs. I got to know Donald mainly when he was appointed Consultant at MCAST after he reached his retirement age. We were then neighbours, with juxtaposed offices on the second floor in the administration block at the Main Campus, Paola. We spent around five years meeting daily, discussing how to improve our College regulations, administration and output for the benefit of all its stakeholders.

"Bongu Ton" was his typical way of greeting me every morning while opening his office door. Then it was the time to share the early morning plans or to listen to one of his 'light' jokes – he always left the good ones for lunchtime or some discussion break. Donald was a man of good cheer and I am not surprised to read, in response to my Facebook post this morning, many of our colleagues

highlighting his sense of humour and his particular way of dramatising his jokes with the accompaniment of his excellent imitation of different sounds. Well, Donald was indeed an asset that has enriched so many during his earthly stay.

Apart from working with Donald at the Main Campus, we had the opportunity to travel together to Berlin in the excellent company of our former Principal/CEO, Professor Maurice Grech. We had initially toured quite a bit of campus and universities in association with Fraunhofer, a German-based research group that helped us lay down the foundation of our first Vocational Degrees. When we visited Berlin, the temperature was freezing... but Donald always ensured that the cold, grey clouds above us never weighed in more than they should... through his jokes, his sense of humour and gentleness. Above all, his interventions and recommendations were the fruit

of many years of experience and practical wisdom.

Donald's main contribution boiled down to his ability to organise ideas in a very structured manner while being available to listen to others 'with his heart and with openness.' How can I forget his narration of the clock sounds, the escape of a camel that was meant to have an important role in one of the plays held somewhere at Mdina, or the hilarious moments he had experienced when at the Arts Centre in Valletta before he embarked on his work at Targa Gap in Mosta!

This gentleman respected his family and whatever he said about his beloved wife and his children always reflected his sense of duty and responsibilities as a husband, father and brother. Indeed, Donald was one of the human treasures many – including myself – have encountered in this valley of tears.

Peace and rest to Donald's beautiful, artistic soul.



**Well, Donald was indeed an asset that has enriched so many during his earthly stay.**





By launching the new 'Be the face of MCAST' initiative the College is offering an excellent learning and growth opportunity for both MCAST students and employees.

We want MCAST students and employees to showcase the diversity at the College by sharing their stories and images. Potentially, this will help us attract more individuals to join us.

Participants will take part in MCAST:

- Photoshoots
- Interviews
- Social Media Campaigns
- Publications

This initiative will help in exposing participants to the media world, by placing them at the forefront of the College's communications efforts.

Participants will benefit by receiving exposure and experience in public relations. Those that enrol will also receive training in Public Speaking, experience what it entails to conduct interviews on TV and radio, and learn what happens behind the scenes. These activities will all provide valuable knowledge for one's career. We will choose a total of 20 participants. Potential applicants will be chosen on the basis of the testimonial sent to us. We would like to have individuals from different MCAST Institutes and from different courses.

Interested applicants must be 18 years of age or older and can apply by either clicking on this link **<https://forms.office.com/r/u8Yf7GriVC>** or alternatively by scanning the QR code. It is important that interested applicants use their MCAST email to submit their applications.

For further enquiries please contact MCAST Communications Office via email **[communications@mcats.edu.mt](mailto:communications@mcats.edu.mt)**

# We've Moved!

## Communications Team

New Address

Students' House  
Level 1  
MCAST Main Campus  
Paola







# MCAST

# ALWAYS YOUR LINK

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

