esplora



ESPLORA'S STEM CAREER EXPO

An Introduction for Educators

NATIONAL STEM Career Expo

NATIONAL SCHOOL SUPPORT SERVICES
DIRECTORATE FOR EDUCATIONAL SERVICES
MINISTRY FOR EDUCATION AND EMPLOYMENT



CONTENTS

A warm welcome to Esplora _ 4

Esplora's first STEM Career Expo
January 2020 _ 5

Why Science, Technology, Engineering and Mathematics (STEM)? _ _ _ _ _ _ _ 7

STEM Professionals
What does it mean to work in STEM? _ 8

The RAISE Project
Resources you can use! _ 26

Concluding note and acknowledgements _ 27

A WARM WELCOME
to Esplora

ESPLORA IS THE ONLY INTERACTIVE SCIENCE CENTRE IN THE MALTESE ISLANDS. IT OPENED TO THE PUBLIC ON 26 OCTOBER 2016, OFFERING OVER 200 INTERACTIVE EXHIBITS. THE ULTIMATE AIM OF ESPLORA IS TO ENABLE PEOPLE TO EXPERIENCE SCIENCE IN A WAY THAT IS ENTERTAINING, PLEASANT AND INTERESTING. THIS BRINGS A POSITIVE CHANGE IN PEOPLE'S PERCEPTION AND ATTITUDE TOWARDS SCIENCE. ESPLORA STAFF STRIVE TO PROMOTE A CULTURE OF SELF-DISCOVERY, CREATIVITY AND INNOVATION.

In line with this, Esplora encourages visitors to explore, think, imagine, appreciate and create. These five values are explained briefly below.

Explore
By implementing an inquiry-based learning approach, science activities are portrayed as entertaining, relevant, interactive and engaging.

Think
Through the presentation of science as a stimulating, dynamic and continuous process, visitors are invited to observe and discover how true this is.

Imagine
Engaging visitors in science by stimulating their imagination enhances their understanding of scientific concepts.

Appreciate
Science is constantly evolving and shaping the world. Making the audience aware of the constant and rapid advancements in the various fields of science fosters a deeper appreciation of science and how it improves people's lives.

Create
The development of activities which embrace the Arts as well as tinkering (i.e. making and exploring through trial and improvement) helps create a culture of scientific enthusiasm.

Esplora Science Centre also works in direct collaboration with other stakeholders and working groups, such as the STEM Engagement Working Group, in order to adopt a more holistic approach to STEM learning on a national level.

Finally, through projects such as the Erasmus+ RAISE project, Esplora works on debunking common stereotypes related to professionals working in science sectors. Esplora also strives to foster gender and social diversity in science.

ESPLORA'S FIRST STEM CAREER EXPO

January 2020

From 21 to 26 January 2020, Esplora hosted its first Career Expo dedicated to **Science, Technology, Engineering and Mathematics (STEM)**, aimed at **children in late primary (ages 8 to 10)**. The choice of a relatively young target audience is in line with Esplora's research-based belief that it is extremely important for young children to be exposed to STEM subjects and STEM occupations.

The aim of the Expo was that of slowly introducing children to occupations in science, technology, engineering and mathematics that are available locally, with a view to showing them the wide variety of interesting options they will be able to choose from later in life. Via the Expo, we also acknowledge and honour the contribution of Maltese and Malta-based STEM professionals to society at large.

The STEM Career Expo was an initiative of the STEM Engagement Working Group chaired by Esplora and composed of members from the Ministry of Education, University of Malta, the Malta College of Arts, Science and Technology (MCAST), JobsPlus, National Skills Council and Institute for Education. As of 2020, Tech.mt is also a member of this Working Group. The 2020 Expo was co-funded by the Erasmus+ RAISE project described further down.

More than 1,200 school children from different state, church and independent schools across the island visited the Expo with their teachers from Tuesday to Friday. They were taken to different stands manned by STEM professionals from different private companies, government departments and NGOs. What made this Expo different from traditional fairs is that the children were presented with a STEM activity at every stand. Through these very diverse activities (VR experiences, games, quizzes, coding exercises, tinkering activities, etc.), they engaged with the STEM professionals and discovered – in a fun, hands-on way – what a day in the



workplace of these professionals could feel like.

The organisations that generously and voluntarily took part in the STEM Career Expo 2020 and whom we sincerely thank for their time and enthusiasm are:
Aurobindo; Directorate for Digital Literacy and Transversal Skills; Chamber of Engineers; Robocoach; University of Malta; ElectroGas & Operators; MCAST; Easy Peasy Coding; Malta Information Technology Agency (MITA); AquaBioTech Group; Chamber of Pharmacists; The Space Design Company; JobsPlus; MCAST Student Association IASSO; ST Microelectronics; Lufthansa Technik; Valletta Design Cluster; Miss In Tech; BirdLife Malta; National Blood Transfusion Service; Allied Health Professionals – Pathology Department, Mater Dei Hospital; Ambjent Malta; Greenhouse Malta; Transport Malta; EUPA; Cottonera Resource Centre and representatives of Dentistry Lab Technicians.

Children were also offered an Esplora show and some free time to enjoy the exhibits.

Overall, it was a very positive experience for children, teachers and STEM professionals alike, as well as for us at Esplora.



In collaboration with the teachers, and as part of the pre- and post- activity evaluations, children were asked to draw a STEM professional before and after their visit. While the exercise cannot be perceived as a conclusive study in itself, it was encouraging to see that for some children the perception of a STEM professional changed from a man in a lab-coat to a woman in jeans, following the Expo visit!

During the weekend, some extra activities were offered to the general public, such as a STEM game show, a Guess What I do? game organised by JobsPlus and a storytelling activity for little tots called Once Upon a Dream.

Photos of the STEM Career Expo can be accessed **here**.

The STEM Career Expo is meant to be a yearly January event at Esplora. Unfortunately, the 2021 Expo had to be cancelled due to the international public health situation.

However, in order to keep encouraging children to take up STEM subjects and be aware of STEM careers, Esplora decided to set up a small exhibition on local STEM professionals, whose profiles are shared in more detail in this booklet.

As part of its student collaboration projects, Esplora also teamed up with the MCAST Institute for the Creative Arts to produce a short video featuring interviews of five STEM professionals.

The STEM Career Expo in this format will be at Esplora from 22 January to 31 March 2021.

WHY SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)?

The dire need for more highly-trained scientists and the expected drastic increase in the number of STEM-related jobs in the near future are just some of the reasons behind the global educational focus on STEM subjects and careers.

According to data published by JobsPlus, full-time employment in professional, scientific, technical, administration and support service activities has experienced an upsurge between 2013 and 2019 and is expected to continue rising. Statistical data shows that by 2027 there will be over eight million new STEM-related occupations in Europe (Brzozowy, et al., 2017). It is therefore important to expose children and young people to STEM subjects and make them aware of the myriad opportunities that are available now and that will be available in the future.

Scientific and technological innovations advance at a very fast pace, and we cannot help observing the benefits and challenges of a more interconnected world. For anyone to succeed in a world that is becoming increasingly information-based, STEM-related skills need to be developed to levels far beyond what was considered acceptable until now.

Among other things, STEM learning helps children develop critical thinking and creative problem solving, which are skills they will find very useful in all aspects of their lives, well beyond the workplace.

Indeed, STEM is important because it pervades every part of our lives. Science explains the world around us, and technology is continuously expanding into every aspect of our lives. STEM learning as a result can help both children and adults make sense of a changing world.

Around 80 % of the 30 countries recently surveyed by Scientix describe STEM education as a priority area at national level. The Maltese government has naturally also recognised the importance of STEM subjects. A number of initiatives have been designed to address the shortage of skilled STEM professionals and to stimulate interest in STEM subjects among school children. For instance, the Ministry of Education and the Life Sciences Park have launched a campaign entitled “START STEM” aimed at increasing awareness of STEM occupations among students. The year 2020 has also seen the beginning of a project by the Malta Chamber of Scientists and the University of Malta seeking to investigate why STEM fields seem to attract more males than females.

MEETING STEM PROFESSIONALS IN MALTA

What does it mean to work in STEM?

The following are snippets from our interviews with women and men working in and with science, technology, engineering and mathematics. The interviews below complement the posters on display at Esplora.

The professions showcased are purposely not occupations children, or indeed even adults, are necessarily familiar with. The aim here is to show how varied STEM professions are, that there are great jobs available here in Malta at different levels of education and that a combination of disciplines is not only possible but often truly inspiring. Yes, you can study art history and science and become a heritage scientist!

> **IN OUR WORK AT ESPLORA, WE REGULARLY MEET INTERESTING AND PASSIONATE STEM PROFESSIONALS WORKING IN DIFFERENT FIELDS. WE THOUGHT IT WOULD BE GREAT FOR CHILDREN TO 'MEET' THEM AND GET TO KNOW MORE ABOUT WHAT THEY DO AND WHY.**

We invite educators to use these profiles, as well as the posters and video available on our website, in activities aimed at providing school children with information on STEM subjects, occupations and careers.



Interview with

ROSLYN DEBATTISTA



I always wanted a job which allowed me to carry out investigations and research. At the same time, I was always fascinated by the rich cultural heritage of the Maltese Islands. Therefore, finding a job that gives me the opportunity to carry out investigations and research to preserve and enrich Malta's cultural landscape was superb.

I am a master's graduate and am currently working on scientific investigations which support the conservation and preservation of historical objects and sites. These investigations sometimes also shed light on and enrich knowledge of the object's or site's historical background. I am also actively involved in research studies related to past legacies, meaning people who colonised the Maltese Islands and the materials that they used.

My job at the laboratory is very dynamic. One investigation is always different from another due to the uniqueness of the artist, his or her preference in the materials used and the materials' availability at the time the work of art was created.

Current job
Heritage Scientist

Where do I work?
The Diagnostic Science Laboratories of Heritage Malta

Education
Master of Research in Science, United Kingdom. Bachelor's degree in Science with specialisation in Applied Science and Forensic Investigation, United Kingdom

Life Motto
An investigative mind and a keen eye for detail help uncover a world that is hidden and unknown to us.



Interview with FABRIZIO PULVIRENTI

Since I was at school I was fascinated by science, as it always seemed to give me the answers to my questions. When I graduated from school and went to University, I had my first experience in a laboratory. That is when I knew that I wanted to work in a pharmaceutical company.

As a Laboratory Analyst, my job is to test medicines before they are released to the market. The testing is required to ensure that the product is fit for human consumption. At present, I am testing many different medicines that can be used to treat various illnesses. I also test medicines for people who are in hospital with heart problems, diabetes and with serious infections such as blood infections. These medicines are then distributed to hospitals and pharmacies all over Europe, including Malta.

I believe that people need to know exactly how important our job in the laboratory is, because if there were no people doing this job there would be no medicines in the world. This means that there would be no doctors, nurses or hospitals and it would be very difficult to cure some of the deadliest diseases on a worldwide scale.

Current job
Quality Control Laboratory Analyst

Where do I work?
Aurobindo Pharma Ltd.

Education
Master's degree in Chemistry and Pharmaceutical Technology

Life Motto
Believe in your dreams, follow the path that you want. If you do not succeed at first, do not give up, persevere and you will reach your dream. My dream was that of making sick people get better and making a difference in their lives.

Interview with

ADIEL CUSCHIERI



I was always worried about Malta's water scarcity and the repercussions that the world would face if water depletion were to persist. Unfortunately, a lot of people still do not value the impact Maltese valleys have on our personal life.

I am a bachelor's degree graduate and am currently delving deeper into the water aspects of valleys and how people can make a more sustainable use of such water. Valleys are sacred spaces we should protect and cherish, especially given their importance for our physical, mental and spiritual health.

I primarily work with water and its properties. However, I also require knowledge of other fields of study such as ecology, geology and sociology. They all influence the water around us in their unique way. I collect most of the data by visiting different valleys around the Maltese Islands. I believe that if I want to see a positive change I have to first be able to understand the reality and persevere in my work to be a catalyst of change.

Current job
Hydrologist

Where do I work?
PARKs

Education
Bachelor's degree in Earth Systems, University of Malta

Life Motto
Stop worrying about what you want to be in the future, and instead focus on the now. Learning is so much fun when it is about things you like!



Interview with **KIRSTY RIZZO**

I have always enjoyed laboratory work. However, I was still uncertain as to which career to pursue at University level. The large variety of courses available made me question my decision, as this was the first important decision that could shape my lifetime career. However, once I started the course in biomedical science, I felt captivated and was certain I had made the right choice.

The course that I have now followed for 4 years is extremely interesting and deals with the study of the techniques and procedures involved in the collection and analysis of samples taken from the human body. This allows identification of pathological conditions. The major areas of study are **cellular pathology** (the study of diseases of cells and tissues), **clinical biochemistry** (the study of the levels of biochemical compounds in the body), **genetics** (the study of inheritance of certain features and diseases), **haematology** (the study of the components of blood), **medical microbiology/virology** (the study of microorganisms that cause diseases), **transfusion medicine** (the study of the collection, preservation, storage, testing and administration of blood and blood products) and **immunology** (the study of diseases and disorders of the immune system).

My current job entails checking the quality of the blood products before they are released and transfused to the patients. This means performing various tests on the blood products, such as checking for microorganisms that may have contaminated them and also whether they are too acidic and therefore unsuitable for transfusion. There are other processes and blood tests which are performed before the blood products can be transfused to the patients, all of which are performed by medical laboratory scientists at different laboratories within the National Blood Transfusion Service and the Hospital Blood Bank.

Current job
Medical Laboratory Scientist

Where do I work?
National Blood Transfusion Service

Education
Bachelor of Science (Honours) in Applied Biomedical Science at the University of Malta

Life Motto
You must be the change that you wish to see in your world. Stand up for what you believe in and always do what is right, not what is easy.

Interview with

RYAN BUGEJA



Popular block-buster films have all in one way or another sparked my interest in Technology and Information Security. I believe that all action films have something in common – the element of 'hacking' people through computer attacks to gain access to restricted areas or to top secret information.

Such films always made me ask myself how or why it was possible to achieve that attack. At post-secondary level, I continued my studies on ICT systems with a focus on Computer Networks. One of the topics during this course was related to ICT Security. This subject fuelled my interest, which eventually led me to also choose a security-oriented topic for my thesis in my final year.

At present, I am working on a system which hinders network attacks on the government system. This makes the system secure and protects important data from being hacked. The ultimate aim is that of delving deeper into finding out why certain attacks are performed and how to develop new, innovative systems that are more secure.

Current job
Solutions Architect

Where do I work?
Malta Information Technology Agency (MITA)

Education
Bachelor's degree of Science in Computer Networks, MCAST

Life Motto
Learn from your education but also from your life experiences as they both shape your future. Respect other people's opinions since there is always something to learn from the views of others.



Interview with **ROWENA CHAPPELL**

I always wanted a job that would allow me to enhance my analytical skills and that challenged my limitations and gave me the opportunity to broaden my knowledge. Upon completing compulsory education, I entered MCAST and followed an undergraduate course in Business Analytics. This field inspired me to learn about new dimensions of life and self-growth.

My job is mainly characterised by the collection of data and analysis of data patterns. These, in turn, can be used to predict future ways of helping customers to have a better experience. As a group, we are always striving to identify areas for improvement and understanding, with the aim of providing a better service to customers.

I have a passion for exploring alternative ways of making the data more relevant and efficient for customers who communicate with different business corporations. I believe that the ultimate aim of each organisation should be that of placing the customers at the centre and catering for their needs.

Current job
Customer Experience (Operations Executive)

Where do I work?
Melita (Telecommunications)

Education
Bachelor's degree in Business Analytics, MCAST

Life Motto
There are always new things to discover, learn and challenge. Never accept things for what they are – question them. There is nothing wrong with asking for help or feedback. It will simply help you to grow.

Interview with

INES GOMEZ PEREIRA



When I was a child, I always wanted to work directly with marine animals. When I got older, I turned my attention to aquaculture and as soon as I realised its potential, I decided to pursue a career in this growing field of study.

My profession allows me to be actively involved in the maintenance of Recirculating Aquaculture Systems (RAS) where fish are grown, making sure they are in a good state of health. I am also part of the team that carries out tests or 'trials' on different vaccinations and fish feed. This job entails a lot of effort and dedication in order to give this sector the reputation that it deserves in the Maltese business sector.

What inspires me about my job is that it allows me to be challenged every day, and provides me with the opportunity to work with different fish species from all over the world. Apart from this, I have broadened my knowledge on new technologies that are specific to the job such as how to operate an RAS. You also need a keen eye for detail as problems will always emerge. As a team, we need to implement fast but effective solutions.

Current job
Aquaculture Technician

Where do I work?
AquaBioTech Group

Education
Master's degree in Aquatic Biological Resources, University of Porto, Portugal.

Fellowship at the Interdisciplinary Centre of Marine and Environmental Research (CIIMAR), Porto, Portugal

Life Motto
Let us preserve the marine environment and respect the large biodiversity inhabiting our seas. Respect marine life!



Interview with **RAMON ZAMMIT**

I always wanted to become a scientist from a young age. My dad, who is a doctor, had numerous chemistry and biology books in his study room, which I used to open and leaf through. I remember that I was fascinated by the periodic table and astounded to learn that every visible object is made up of one or more of the elements present in the periodic table. Since then, I followed chemistry and biology both at compulsory and tertiary levels of my education.

In the past four years, my main role as a scientist has been that of an equipment officer, managing the calibration and maintenance of the numerous pieces of equipment which we use in our laboratories. I am also involved in validating new analytical procedures for future inclusion in the Laboratory's analytical repertoire.

Therefore, as a scientist handling most of the equipment of the lab, my job is nicely challenging, working against tight deadlines, solving problems that arise, validating new methods and seeking more efficient ways of operation. However, the sense of accomplishment when performing successful troubleshooting and adding new methods to what is currently available is very rewarding.

Current Job
Laboratory Scientist

Where do I work?
Water Services Corporation

Education
Master's degree in Chemistry. Bachelor's Degree of Science with specialisation in Chemistry and Biology

Life Motto
Science helps us understand the world we live in, and research in this sector can result in world-changing developments.

Interview with

EDRIC BORG



As from when I was still very young, I was fascinated by technology and always wanted to learn how things worked. My job as a Process Engineer involves overseeing the processes within the manufacturing line that I am responsible for. I always seek to improve the processes to make them more efficient and make sure that the product being produced is up to standard.

My occupation gave me the opportunity to enhance and improve the skills that are essential for this particular field. Such skills include problem-solving skills, good and effective leadership, teamwork, determination and also dedication.

The thing which I love most about my job is that it challenges you every day with problems that sometimes come your way unexpectedly. I then need to apply my knowledge, skills and experience in order to work out a solution that is effective and without any subsequent negative repercussions.

Current Job
Process Engineer

Where do I work?
Simonds Farsons Cisk plc

Education
Bachelor's degree in Engineering, MCAST

Life Motto
Follow your dreams and do what you love. Look for opportunities that will teach you and that help you develop your knowledge and skills.



Interview with

ELAINE NICOLE BUSUTTIL

As from a young age, I always loved Maths and Physics; my Dad used to teach these subjects. After finishing my SEC exams, I visited an exhibition at the University of Malta about Final Year Projects, and I decided that I wanted to create something similar.

As a Testing Process Engineer, my job entails defining instructions to help operators do their job. I also assist operators with the testing of machines and guide them on what they need to do should there be a problem with the machine or material they are handling.

One of the most beautiful things about my profession is the satisfaction I feel when customers praise the high-quality standard of the products they are getting. Those products are the result of a collective effort to solve problems, which is what we do on a daily basis as a team. Being a direct link between operators and management also allows me to improve equipment efficiency and enhance my professional skills.

Current job
Testing Process Engineer

Where do I work?
ST Microelectronics

Education
Master's in Engineering specialising in Communications and Networks. Bachelor's degree in Electrical Engineering specialising in Electronics Design

Life Motto
Never give up on your dreams! I was highly discouraged from pursuing a career in Engineering, but I wanted to prove that women are perfectly capable of being engineers. And now here I am!

Interview with

MARIA ATTARD



From when I was still a child, I always showed interest in electronic gadgets and assembling toys. I believe that choosing this profession happened naturally. It could be due to the fact that my father is a motor mechanic. I can still recall that time in my childhood when I used to help my dad in the garage after school or whenever I was off from school.

My current job involves working with my colleagues to troubleshoot SMD (Surface Mount Design) equipment when a breakdown or a problem crops up. I also prepare production documents and am involved in the process of preventive maintenance of machinery.

The thing which I like most about my job is that it gives me the opportunity to discover and learn new things every day whilst working with the latest technologies in the field of electronics manufacturing.

Current Job
Surface Mount Technology Technician

Where do I work?
Carlo Gavazzi Ltd.

Education
Diploma in Industrial Electronics, MCAST

Life Motto
Always choose a career that you really want to work in later, not because someone else makes you do it, but because you are truly passionate about it.



Interview with **BARTOLOMEI PARLAGI**

As a child, my dreams were to become a firefighter, a truck driver or a doctor! Aviation is a high-tech industry that is constantly improving. Working in the aeronautical industry allows me to work with the newest technologies, materials, tools and systems. This keeps my eagerness to learn high and my ambition to improve very much alive. The job is rarely the same from one day to another and thus never boring.

My present occupation involves working on aircraft, its parts and system to ensure that it is fit to operate and fly safely. Inspections, checks, repairs, overhauls and modifications on aircraft and its components are the core activities undertaken by the aircraft technician. The primary aim is always to ensure that the aircraft is safe and in best condition, and above all airworthy, meaning that it is fit to fly.

Working in such a field calls for: good mechanical skills to carry out repairs and operate machinery; attention to detail – even the slightest mistake can have serious implications and could be disastrous; flexibility to be able to work on different systems together with a high level of responsibility; and accountability for jobs carried out! Managing stressful situations effectively is also a useful skill to learn as it leads to greater effectiveness!

Current Job
Aircraft Technician

Where do I work?
Medavia

Education
Master's degree in Aircraft Operations, University of Malta

Life Motto
Take care of yourself, the others and the environment! It is better to be a valuable person than a successful person! Do what you like best and what makes you happy. It does not matter how hard it appears; if you really want to, you will become a professional!

Interview with **KEVIN ABELA**



I loved Mathematics from a very young age. I always dreamt of studying Mathematics and pursuing a career in this field. The German mathematician Carl Friedrich Gauss was one of my biggest inspirations, who helped me to better understand the practical application of mathematics to the real world.

I am a master's degree graduate in Mathematics, and I intend to pursue my studies up to PhD level. I spend a lot of time doing research on other scientists and the experiences they went through. This allows me to attain my ultimate goal, that of changing people's wrong perception of mathematics as being abstract and very difficult to learn.

Currently, I am working with another colleague of mine in order to transform quarterly/annual data into monthly/quarterly data. This was done by altering a well-known mathematical method.

Current job
Senior Statistician

Where do I work?
The National Statistics Office (NSO)

Education
Master's degree in Mathematics, University of Malta. Master's degree in Philosophy, University of Malta. Bachelor's degree of Science in Mathematics, Statistics, and Operations Research, University of Malta

Life Motto
"Scientists are just ordinary people who make a difference in people's lives."

Role Model
The famous physicist and Nobel prize winner Richard Feynman (1918-1988). Feynman was an American physicist. Feynman won the Nobel Prize in Physics in 1965 in a branch of science known as quantum electrodynamics. He was also one of the first scientists to study quantum physics.



Interview with **STEPHANIE FARRUGIA**

Maths was always my favourite subject at school and I always asked a lot of questions. This is why I chose Mathematics and Physics as A-levels, which paved the way to pursuing a career in the sector of business.

At present, my profession involves helping businesses to eliminate the guesswork from their decision-making process by making use of their data asset. I recommend solutions that can give a better understanding of their business. I assist companies to achieve quick and accurate reporting and analysis, helping them to benefit from insights that enable them to reduce costs, improve performance and grow their business.

Being a business intelligence consultant allowed me to further develop my analytical and programming skills. My job requires great precision and an eye for detail. In fact, part of my work is that of analysing data and drawing conclusions, which in turn helps businesses with their strategic development through the provision of data-driven insights.

Current Job
Business Intelligence Consultant

Where do I work?
Your Infonomics Consultant

Education
Master's Degree in Mathematics, University of Malta. Bachelor's Degree in Mathematics and Physics, University of Malta

Life Motto
Listen to your heart and let it drive you towards your passion.

Interview with

NEVILLE CALLEJA



My first degree was to become a medical doctor. I must admit that I was confused about which medical specialist career to choose. The options are endless! Then an opportunity came up for a position in medical statistics and I must admit that my wife was the one who saw my potential and encouraged me to consider it. I did not think much of it at the time – it was a completely new career path and not one I had considered before. I decided to go for it, and I never looked back.

Throughout my career, I have used my statistical skills to help countless healthcare professionals improve their own practice. I admit that I was lucky enough to have studied Pure Mathematics at Advanced Level; otherwise, it would have been much harder to perform well in my current job. However, I believe that the most important skills that I hold are respect, patience, resilience and the ability to think out of the box.

Much of my work involves collating data related to people's births, deaths, hospital admissions, cancers and several other specific areas into registers. These are then disseminated to various international organisations such as WHO, EUROSTAT and OECD. All this information serves an important role in informing policy decisions within the Ministry for Health and beyond, including new health strategies and projects such as hospital planning.

Current job

Director of Health Information and Research

Where do I work?

Ministry for Health

Education

PhD in Statistics, Open University, UK. Doctor of Medicine & Surgery, University of Malta. Master's in Science in Medical Statistics, London School of Hygiene and Tropical Medicine, UK. Master's in Science in Public Health, University of Malta

Life Motto

Be flexible and resilient. What helps you achieve that is the breadth of subjects you educate yourself in. There is no subject in school which is useless. Throughout my career, I have used all the subjects I studied during my earlier years – sciences, economics, accounts, computing, mathematics, languages and even philosophy, which at that time I thought was useless!



Interview with JOSEF LAURI & CHRISTINA ZARB

We were always interested in studying and teaching Mathematics. Our inspiration had come from some excellent teachers and mentors that we were lucky to have, our wish to pass on our passion for the subject to others, and the possibility of participating in the discovery of new mathematical results and phenomena.

At present, we are both lecturers of Mathematics at the University of Malta. We are involved in research in the area of Graph Theory. The graphs we study can also be called networks. A problem we are interested in is why, even if the edges of a graph are coloured in any random manner, a structured colour pattern will often appear if the graph is large enough. Studying graphs has several applications in other areas such as Computer Science, Telecommunications, Social networks and the study of chemical and biological structures.

Something we really like about our current occupation is solving mathematical problems, persevering and always wanting to know more about this subject, as well as sharing our knowledge and passion with our students.

Current Job
Mathematicians

Where do we work?
Faculty of Science, Department of Mathematics, University of Malta and G.F. Abela Junior College

Education
PhD in Mathematics, Open University and University of Malta. Master's in Mathematics, University of Malta.

Bachelor's degree in Science with specialisation in Mathematics and Statistics and Operations Research, University of Malta

Life Motto
Find the mathematician inside you. You all have it!

Interview with

DAVID CARUANA



Teaching and communicating science to people in a fun way was always my passion. I loved science as from a very young age. After graduating in Chemical Technology, I started working as a laboratory analyst. However, after five years, I wanted a change. This led me to apply for a job at Esplora.

As an Explainer, I met a lot of visitors. This enabled me to do what I had always wanted to do – enrich people's knowledge about science. After a year in this position, I applied for the position of Science Communicator. In this new role, I am actively involved in performing science shows and workshops to different audiences.

I work in direct collaboration with other team members to draft and study the scripts of the outputs developed by Esplora's Education Programme Development Team. Together, we practise hands-on demonstrations, keep track and order any items and chemicals needed for our shows, and organise or decorate the science theatres and science laboratories so that they are welcoming and aesthetically pleasing to the public. My job goes beyond communicating science to the public; it also requires a good mastery of technology, engineering, arts and mathematics.

Current Job
Science Communicator

Where do I work?
Esplora Interactive Science Centre

Education
Bachelor's degree in Science with specialisation in Chemical Technology, MCAST

Life Motto
Never give up on your dreams and keep working hard until you reach your goals!

Other resources you can use:

THE RAISE PROJECT

RAISE is an abbreviation for Raising Awareness and Interest in STEAM Employment. This Erasmus+ project started in November 2017 and was completed in December 2020. The project, coordinated by Esplora, had both local and foreign partners: MCAST (Malta); SISSA Medialab (Italy); Glasgow Science Centre (Scotland); Hiša Eksperimentov (Slovenia); and Luxembourg Science Centre (Luxembourg).

The project's main aim was that of addressing the STEAM skills gap that persists in Europe. The project also sheds light on the importance of encouraging students to take up vocational educational and training (VET) subjects and careers.

In order to facilitate this process, the project partners created a 'RAISE Careers' app, which can be easily downloaded from the project website. This app contains numerous resources that not only help with career choices but also debunk stereotypes that all too often prevent students from pursing STEAM careers.

The educational resource pack includes several activities for children aged 4 to 18 and can be accessed by visiting the Esplora website or via the RAISE website: **https://raiseprojecteu.com downloadable-resources/**



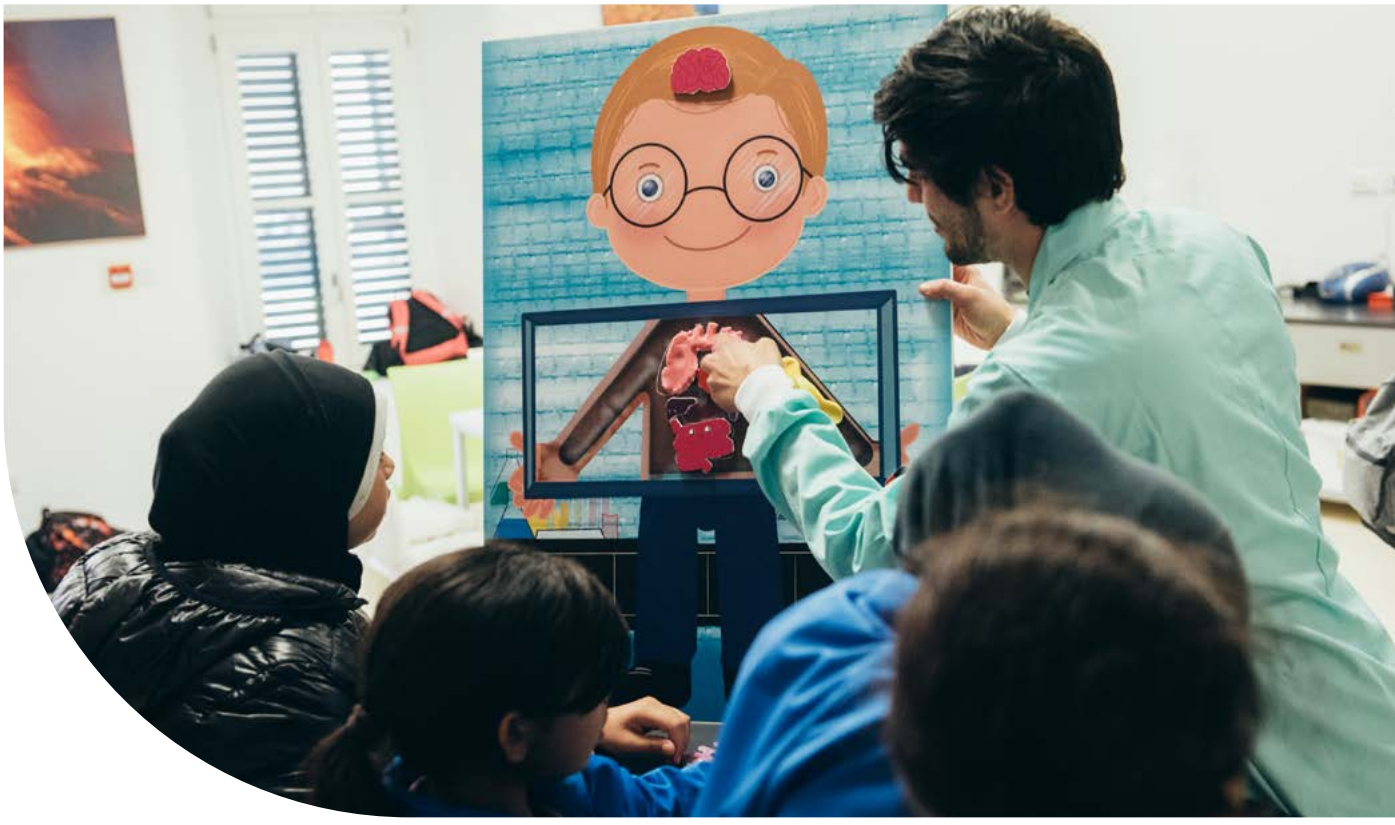
CONCLUDING NOTE AND ACKNOWLEDGEMENTS

Esplora would like to thank educators at all levels, for stimulating our children's interest and curiosity and encouraging them to take the path they feel most attracted to.

We would also like to thank the STEM Engagement Working Group for their commitment and support. Thank you also to the National School Support Services at the Ministry of Education and all guidance teachers for their continued cooperation.

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We hope to welcome you all again at Esplora very soon, and certainly hope to see you at our STEM Career Expo 2022!





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