

The image features a laptop on a dark surface. On the laptop's screen, a glowing, golden book is open, with its pages radiating outwards. From the book, numerous bright, star-like sparkles and long, flowing light trails emerge, creating a magical, ethereal atmosphere. The background is dark, making the glowing elements stand out. The title text is positioned on the right side of the image, partially overlapping the light trails.

Teacher's perspectives on Girls in ICT

Malisa Richards



Outline

Teacher's perspectives of Girls in ICT



Outline

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Brief **Introduction**

Malisa Richards

Ms Malisa Richards has over 16 years of teaching experience and was employed in 2020 by Dominica State College. Apart from lecturing, she also has professional experience in the areas of e-learning and research. She holds a Diploma in Computer Science and a Bachelor's Degree in Statistics from the University of Guyana. She completed a Master's in Information Systems and Technology Management at the University of the West Indies and is currently reading for a Master's in Augmented and Virtual Reality at Namseoul University in South Korea.

Ms Richards is also an alumnus of ICANN, ISOC, ARIN and LACNIC fellowship programs. Her research areas of interest are e-learning, augmented and virtual reality, IPv6, Internet Governance, IT Governance, and Data Governance.

In her spare time, Malisa enjoys table tennis, travelling, reading, cooking, and immersing herself in the world of VR – activities that assist in balancing her daily life.



Malisa Richards.

BSc, MSc & Prospective Master's Candidate

Lecturer

**Department of Computer Science
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**How I got
involved in ICT**

- Introduced to the computer in 1995. My first laptop was an IBM Thinkpad.
- Upon completion of high school, I spent most of my days immersed in the virtual world learning as much as I can
- 2000 – completed studies in PC repairs and Networking
- 2001 - completed studies in Microsoft Office Specialist, A+, Network+, among others
- 2001 - recommended by my MOS teacher for a job at the Open Doors Centre teaching students with disabilities
- 2003 - started teaching with the Kuru Kuru Co-operative College
- 2006 - Kuru Kuru College in collaboration with DevNet launched their Moodle platform mentored by Aurel Liddell. I was the Moodle administrator
- 2007 - hired as an E-learning Consultant with BrainStreet Group where I worked on the BrainStreet & BrainCentral platforms.



Malisa Richards.
BSc, MSc & Prospective Master's Candidate

Lecturer
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**Undergraduate
Computer
Science
programmes
offered in the
CARICOM
Region**

COMPUTER SCIENCE PROGRAMMES OFFERED IN CARICOM COUNTRIES

Trinidad & Barbados

- Computer Science
- Computer Science & Management
- Information Technology
- I.T & Management
- Software Engineering
- Computer, Network and Telecommunication Engineering
- Visual Communication Design

Other CARICOM Countries

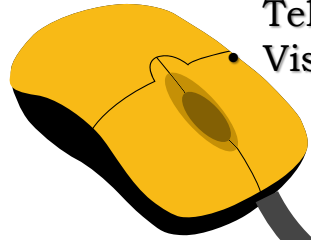
- Computer Science
- Information Technology
- Computer Information Systems
- Computer Studies-Application Programming
- Computer Engineering

Guyana & Jamaica

- Computer Science
- Information Technology
- Information Systems
- Computer System Engineering
- Computer Studies
- Software Engineering
- Computer Network & Security

OECS Region

- Computer Science
- Information Technology
- Web Development
- Animation and Design
- Digital Communication
- Computer Systems Engineering
- Digital Business



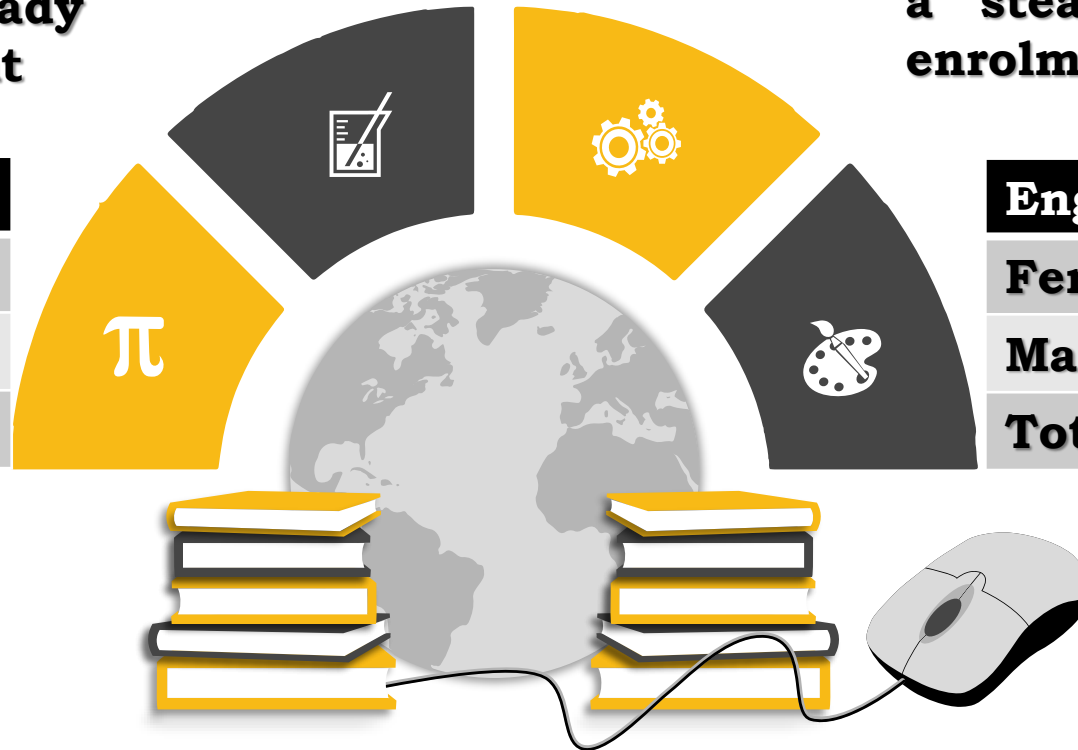
COMPUTER SCIENCE ENROLMENT STATISTICS

Science, Technology & Math
2017 – 2020: there's a steady increase in female enrolment. Overall, there's a steady increase in student enrolment

Engineering
2017 – 2020: female enrolment has fluctuated. Overall, there's a steady decline in student enrolment

Science, Technology & Math			
Female	1232	1268	1238
Male	984	981	1067
Total	2216	2249	2305

Engineering			
Female	338	346	327
Male	879	802	791
Total	1217	1148	1118



Statistics adopted from UWI Digest 2015 – 2020



Educational Technology Tools used by Teachers / Lecturers in the Caribbean

POPULAR EDTECH TOOLS FOR TEACHERS IN STEM

TEACHERS

- **Floop** – is a cloud-based website where students can receive annotated feedback from teachers and peers!
- **Nearpod** – is an interactive tool for creating engaging, fully-interactive lessons and has a virtual reality component also. Students can access your lesson from any device.

ENGINEERING

- **EdHeads** – virtually engage students to pursue STEM careers through games!
- **TryEngineering** - is an initiative from IEEE aimed at empowering educators and students to succeed in our highly technological society.

SCIENCE & TECHNOLOGY

- **PHET Interactive Simulations** for General Science
- **Brain Pop** – creatively explains difficult science concepts
- **BASF Virtual Kids** – a lab simulation teaching students the basics of the lab with 9 labs

MATHEMATICS

- **Open Middle** – is a problem solver for Grades 1 to 12 students.
- **Whiteboard.Chat** - interactive whiteboard offers a full instructional experience for primary to higher education teachers
- **PHET Interactive Simulations** for Mathematics





Opportunities and Recommendations to get involved in the ICT STEM in the Caribbean

OPPORTUNITIES & RECOMMENDATIONS FOR TEACHERS

Caribbean Science Foundation

Offers STEM workshops train teachers in the use of Problem Based Learning (PBL) and Inquiry-Based Science Education (IBSE) as teaching tools.

A focus on collaboration between educational institutions

Collaboration between primary, secondary and tertiary educators. This cross-curricular approach creates an opportunity for teachers and students to experience the best of both worlds.

A multisectoral approach

Partner with STEM-related organisations such as civil society organisations, the private sector, public sector, and research organisations, that can provide support and mentorship to students and teachers.



OPPORTUNITIES FOR STUDENTS

STEM Clubs

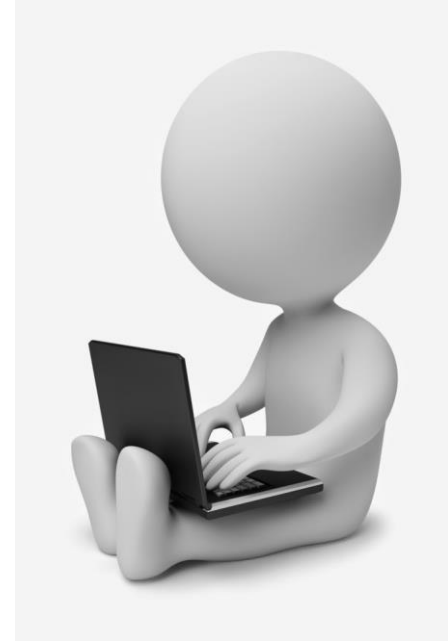
Mentor young people to use their creativity, brilliance, and innovative spirits to create technological solutions for problems in their community, their country, their region and the world.

Volunteer / participate in competitions

From time to time, educational institutions would host a science, math, technology or engineering competition.

New York Academy of Sciences Global STEM Alliance

STEM Mentoring and Education Programs such as 1000 Girls, 1000 Futures and the Junior Academy. The Global STEM Alliance is growing the number and diversity of students in STEM through mentoring, real-world challenges, and online coursework





**Tips for Teachers
and Lecturers
involved in the ICT
STEM in the
Caribbean**

STEM TIPS FOR NEW TEACHERS

FAIL = FIRST ATTEMP AT LEARNING

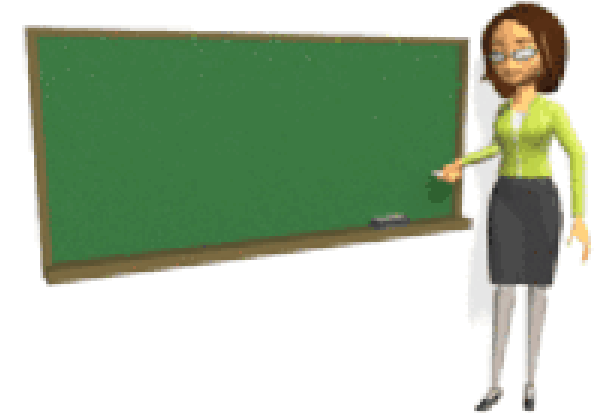
If you are new to STEM, failure might take some getting used to. One of the BEST things about STEM is that failure is how you learn! When students are required to analyze their ideas and designs, make improvements, and work together to solve problems, it makes them better students overall (not just in STEM class!).

STEM is MESSY (But Organization is Key)

Walk into any successful STEM classroom and you may find yourself in the midst of a bit of organized chaos. Use clear bins with lids to swap out materials from time to time. Messes happen, but have students take ownership of the space by setting time aside each class for everyone to clean up.

You've Got This (Or, if You Don't, You Will)

STEM isn't just a class, it's a mindset that challenges you, your students and your environment. Things don't always go as planned- it is ok! Don't feel incompetent at the beginning... STEM is a rabbit hole of amazing stuff that could cave in on you. Share your passion with your students. Your enthusiasm for your lessons and projects is infectious.



STEM TIPS FOR TEACHERS

Connect your classroom with the real-world

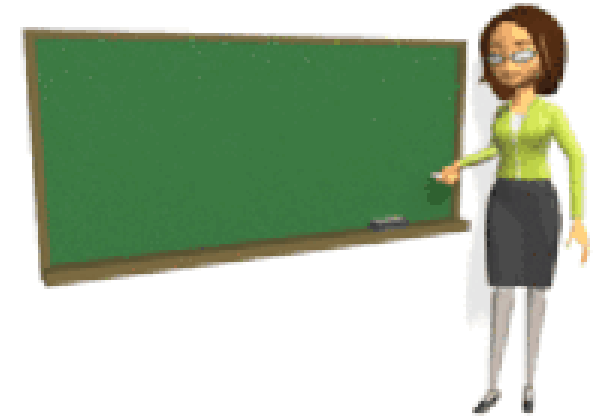
People in STEM fields are solving the world's problems, which makes integrating these same problems into your curriculum a priority. Give students opportunities to explore authentic health, environmental, economic, and social problems.

Engage with other teachers in cross-curricular planning

As a STEM teacher, you don't have to do everything alone. Coordinate with other teachers and evaluate how you might incorporate a cross-curricular lesson or project into your classroom. Cross-curricular projects take a lot of upfront work on teachers' parts, but their implementation can be extremely powerful for students

Foster project-based learning

STEM education lends itself to project-based learning, which is why STEM teachers should implement group projects as much as they can. Not only can these projects allow students to explore real-world problems, but they also afford them opportunities for social interaction and learning how to work with each other in productive ways.





Emerging Careers **in ICT**

EMERGING CAREERS IN ICT

Digital Marketing and Strategy Specialists

Digital Marketing is not solely exclusive to social media and advertising. In fact, it offers a plethora of career opportunities that require technical skills. As a digital marketing specialist, you will be working with many application and web developers throughout your career.

Digital Transformation Specialists

As a digital transformation specialist, you will be helping businesses to improve their process, innovation, and customer experiences by adopting new digital technology. Your primary role is to help the organization's digitization efforts and educate them on the latest tech trends worldwide. Digital transformation specialists help organizations upgrade their internal process service so it can be at par with the current or even coming technologies and help them stay ahead of the curve

Information Security Analysts

As more businesses digitized their business, cyber security threats have become prevalent in society. Many are now implementing cyber security frameworks to solidify their security infrastructure. As an InfoSec Analyst, it will be your task to put in place cyber security measures and ensure that all associated employees are taught how to deploy and maintain them. You also must identify security threats and report them.

Internet of Things Specialists

The Internet of Things (IoT) has altered how we do business and our daily lives. An IoT Specialist is responsible for developing innovative programs and devices to help consumers receive, control, and manage information efficiently. They are also in charge of managing and developing a vast array of IoT devices, platforms, hardware, and systems. The research, code, development, test, and document IoT feature solutions with integrated systems and devices.



Thank you!

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