# ADULT ADVOCATES NEWSLETTER - JULY 2024

## Celebrating Breakthroughs from Gaming to Galactic Milestones

Welcome to the July edition of our newsletter, where we dive into a month packed with celebrations that explore the vast landscapes of technology, engineering, and science. This July, we feature a selection of special days including Video Game Day, Math 2.0 Day, Casual Pi Day, Thermal Engineer Day, the anniversary of the Apollo 11 Moon landing, and World Brain Day. Each event offers a unique opportunity to engage with and deepen our appreciation for the diverse fields within STEM.

## Game On: Celebrating Virtual Victories and Design Delights

On **July 8th, Video Game Day** celebrates the advances and creativity within the gaming industry. It's an excellent chance to explore the science behind game design, including coding, graphic design, and user experience. Workshops can be conducted to teach the basics of game development or discussions on the impact of gaming technology in education and other fields.

**Roberta Williams** is a pioneer in the video game industry, renowned for her work as a game designer of graphic adventure games during the 1980s and 1990s. She co-founded **Sierra On-Line** (now known as Sierra Entertainment) and is best known for her work on the King's Quest series, which helped shape the adventure gaming genre. Williams' games were among the first to incorporate graphics alongside text and introduced complex narratives that engaged players in ways that went beyond simple puzzle-solving.


**"In video games, I felt that the story, not the graphics, was the most important element. Everything else was secondary, a tool to help make the story feel more real."**

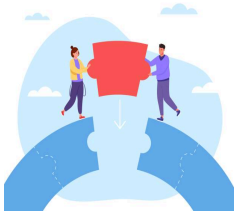
*- Roberta Williams*

## Mathematical Methods in the Age of Algorithms

**Math 2.0 Day** on **July 8th,** encourages the integration of technology with mathematics. This day highlights how digital tools and platforms enhance the learning and application of math. Consider hosting seminars or interactive webinars focusing on innovative software and apps that make learning math more accessible and fun.


- ***BASIC Programming Language*:** Developed in the 1960s at Dartmouth College, BASIC was one of the earliest programming languages aimed at making computing more accessible to non-scientists. **Mary Kenneth Keller**, one of the first women in the United States to earn a Ph.D. in computer science, played a pivotal role in its development. She was a strong advocate for the use of computers in education, recognizing early on the potential of technology to transform learning.

- ***Cryptography Innovations:* Shafi Goldwasser**, a prominent computer scientist, has made foundational contributions to the field of cryptography, which have been crucial for securing internet transactions and enhancing computational number theory. Her work earned her the prestigious Turing Award, often referred to as the "Nobel Prize of Computing," highlighting her impact in advancing secure communication technologies.



- ***Spanning Tree Protocol (STP):*** Renowned for her invention of the Spanning Tree Protocol, **Radia Perlman**, has significantly shaped the functionality of network bridges. This protocol is essential for the operation of extensive network systems, helping to prevent loops that are common in network setups. She has also improved the ways in which data networks self-organize and transfer data, ensuring more robust and reliable network communication.

These women not only advanced their respective fields but also paved the way for the use of mathematical concepts in technology that continues to shape our world today. Their contributions highlight the importance of encouraging more women to enter and excel in STEM fields, particularly at the intersection of mathematics and technology.

## Easy as Pi: A Summer Twist on Mathematics

Celebrated on **July 22nd (22/7)**, **Casual Pi Day** offers a fun summer twist to appreciate the mathematical constant π (pi), an approximation close to the actual value of pi (3.14159...). This day provides a perfect opportunity to blend fun, food, and education in a series of engaging activities that celebrate this crucial mathematical concept. See some ideas below:

- ***Pi-Themed Math Contests***: Organize a friendly math competition focusing on pi-related problems and puzzles. For instance, challenges might include calculating the circumference of circles with different diameters using pi, solving word problems involving pi, or even a 'pi digit memorization' contest to see who can recite the most digits of pi from memory.
- ***Pie Baking with a Twist:*** *What better way to enjoy pi day than with actual pie?* Host a pie-baking event where participants use pi to determine ingredients based on the circumference and area of their pies. For example, challenge participants to use the pi formula to calculate the exact amount of filling needed for a pie based on its size, or arrange a pie decoration contest where the designs must incorporate the pi symbol or digits.

## Cool Minds in Hot Places: Celebrating Thermal Pioneers

On **July 24th**, we celebrate **Thermal Engineer Day**, acknowledging the vital contributions of thermal engineers in industries such as automotive, aerospace, and electronics. Thermal engineers play a crucial role in designing systems that manage heat effectively, ensuring they operate safely and efficiently.

To highlight their work, consider organizing webinars or live talks featuring experts who can discuss the nuances of thermal management, including innovative cooling techniques and case studies. Interactive workshops could also demonstrate how thermal engineering principles are applied in real-world scenarios, such as in the cooling of electric vehicle batteries or the thermal protection of spacecraft.

## Moonwalk Memories: Honoring Footprints on the Lunar Landscape

**July 20th, the anniversary of the Apollo 11 Moon landing in 1969**, stands as a beacon of human ingenuity and the boundless potential of teamwork and perseverance. Celebrating this day underscores the importance of STEM education and innovation, as well as women such as **Margaret Hamilton**, who developed the onboard flight software for the Apollo missions, exemplify the critical contributions women have made to space exploration.

Companies like **SpaceX** and **Boeing** continue to push the boundaries of space technology, reflecting the ongoing importance of fostering diversity within STEM fields to fuel future innovation. This anniversary not only honors past achievements but also inspires current and future generations of engineers to dream big and pursue careers that can quite literally reach the moon.

## Neurons and Know-how: Wiring the Future of Brain Science

**World Brain Day on July 22nd** serves as a crucial platform for highlighting the advancements *(and challenges)* in neurological science and emphasizes the role of women in neurology and the broader STEM fields. Women such as **Dr. May-Britt Moser**, a Nobel laureate for her work on the brain's spatial reasoning system, exemplifies female leadership in neuroscience research.

## SWENext HQ is also on social media!

Engage with fellow SWENexters, gain access to fun activities and see what SWENext is up to!

- **Facebook**
- **X, formerly known as Twitter**
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