MAY 2024 EDITION

GYRA Newsletter

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Editorial

High in Esteem

Abraham Maslow is known for his positivistic theory of psychology. While doing his doctoral studies in New York, he noticed two professors, Ruth, and Max, very different from other professors. They spoke little, but they communicated inner happiness in their behavior. They remained simple, spontaneous, deep in perceiving people and events, appreciative of others, warm, friendly, and truthful. Maslow called them self-actualizing people. Self-actualization is the final stage of people who have satisfied their lower needs.

According to Maslow, we have five basic needs. They are arranged one above the other or hierarchically. First is the physiological need for food, water, air, and maintaining body temperature. Once that is satisfied, we have the safety needs of shelter, security, freedom, and the conditions for healthy living. Next is the need for love and belongingness, such as friends, family, neighborhood, and a nation. The fourth is esteem need, which includes self-respect, confidence, competence, and knowledge. Esteem needs involve reputation and self-esteem. Finally, we look for self-actualization. What need does GYRA help you to fulfill? Of course, it is your esteem needs. To become self-actualizing scientists, you need to address your esteem needs today. GYRA is always happy to help you.

Enjoy this month's newsletter!

Team GYRA

Upcoming Events

IRCC - 2024

VIRTUAL SYMPOSIUM

GYRA Schools

- **PSHSS Thirumudikkunnu, Thrissur**
- **Pratheeksha Bhavan Special School, Irinjalakuda**
- **St. Paul's AUP School, Thrikaripur**

For those interested in hosting the Virtual Symposium in July & August, please drop an email to thinkgyra@gmail.com

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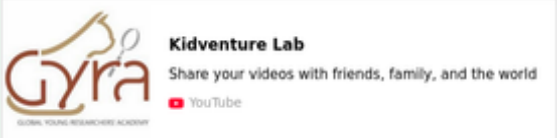

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CURIOUS FACTS

Solar Maximum

The Sun will be at peak activity this year, providing a rare opportunity to study how solar storms and radiation could affect future astronauts on the Red Planet.

In the months ahead, two of NASA's Mars spacecraft will have an unprecedented opportunity to study how solar flares — giant explosions on the Sun's surface — could affect robots and future astronauts on the Red Planet.

That's because the Sun is entering a period of peak activity called solar maximum, something that occurs roughly every 11 years. During solar maximum, the Sun is especially prone to throwing fiery tantrums in a variety of forms — including solar flares and coronal mass ejections — that launch radiation deep into space. When a series of these solar events erupts, it's called a solar storm.

Earth's magnetic field largely shields our home planet from the effects of these storms. But Mars lost its global magnetic field long ago, leaving the Red Planet more vulnerable to the Sun's energetic particles. Just how intense does solar activity get on Mars? Researchers hope the current solar maximum will give them a chance to find out. Before sending humans there, space agencies need to determine, among many other details, what kind of radiation protection astronauts would require.

Welcome on Board

Dr. Manjula Devananda

Dr. Manjula Devananda holds a Ph.D. in Information Science from the University of Otago, New Zealand. Her achievements include winning a prestigious fellowship from the Canadian Bureau for International Education, securing the First Rank and Gold Medal for her master's in engineering, gaining a doctoral scholarship from the University of Otago, and receiving an early career research grant from Callaghan Innovation by the New Zealand Ministry of Business, Innovation, and Education. She served as a health data scientist at Airmed Pvt. Ltd. (a health data science-specialist company in New Zealand), and as the principal of KVM College of Engineering and Technology, Cherthala, Kerala. Currently, she is an AI research scientist and a part of the senior management team at Fusemachines, a company that envisions democratizing AI. She is talented in performing Bharatanatyam and playing Veena. She runs a community service named: "Rimjhim" that addresses children's learning disabilities through developing critical thinking skills and various activity-based games and sessions.

Rev Dr. Jijo Francis

Rev. Dr. Jijo Francis is an Assistant Professor of Zoology at Christ College (Autonomous), Irinjalakuda. He has specialized in human genetics at the University of Calicut, Kerala. His thesis is titled: "Promoter Polymorphism Analysis in Patients with Polycystic Ovary Syndrome." He has done major research projects at Jubilee Mission Medical College and Research Institute, Thrissur, Amala Institute of Medical Sciences, and Amala Cancer Research Center, Thrissur. He has received the Best Paper Presentation Award at ACCENTUATE 2023 of the Jubilee Research Day Conference and the Young Scientist Award at the International Conference on Genetics and Genetic Diseases, organized by Osmania University. His areas of expertise include cytogenetics, molecular genetics, biochemistry, and bioinformatics.

School Focus

GYRA scholars with their coaches after the symposium

Rajagiri Public School, Kochi: Where Young Minds Pioneer Scientific Discovery

The second virtual symposium by GYRA was held at Rajagiri Public School, Kalamasseri, Kochi, on April 6th. The speaker was Dr. Vipindev Adat Vasudevan, a post-doctorate associate at the prestigious Massachusetts Institute of Technology, U.S.A. His research areas include network coding, security, 5G, etc. In his presentation titled “Bits to Brilliance: Next Gen Networks,” Dr Vipin took the listeners on a comprehensive journey through the history of cellular communications, recent advancements, and promising future realms of next-generation technologies. Ms. Ruby Antony, the school principal, felicitated the GYRA activities and honored Ms. Lekshmi Surjith, Principal of Vidyadhiraja School, Mumbai, who was key in hosting the first GYRA Symposium. Ms. Anitha Premnath chaired, and Dr. Finosh Thankam co-chaired the symposium. Class VI students Joe Mohan Manjooran, Mydhili Sanker, Norah Elizabeth Jacob, and Elizabeth Rose Anoop introduced and welcomed various speakers. The symposium was started with a prayer song by the school choir.

Dr. Priya Rajesh introduced each GYRA unit’s research projects at Rajagiri School. One group studied the impact of noise pollution on the growth and development of the plant *Vigna radiata* by assessing the effect of vibrations on plants. The experiment was conducted by placing the seeds in a soundproof environmental chamber called BIOTANICA. A second GYRA unit made a pilot study on the happiness level among children by using a survey method. A questionnaire was served to 60 students. The results indicated low happiness scores in children and young people. Another unit examined the water requirements of plants for their growth. The researchers used a special tool called CROPWAT 8.0 to assess the water requirement of a plant called Amaranthus cruentus. This tool calculates water and irrigation requirements based on climate, soil, and crop data. The researchers expect their study to provide useful information about efficient water use without wastage.

GYRA advisors and coaches who attended the symposium from different parts of the world appreciated Rajagiri scholars' hard work on their research. Special mention was made about the teachers who work with the scholars to train future scientists using the GYRA platform.

Rajagiri Public School aims to educate students to become leaders who are smart, good-hearted, healthy, and caring. Established in 1994 by the Carmelites of Mary Immaculate (CMI) of the Sacred Heart Province, Rajagiri, Kalamassery, the school focuses on academics and skills like thinking, creativity, teamwork, communication, and flexibility. Rajagiri Public School is one of the first schools to join GYRA to help kids become future scientists.

Thank you for reading!