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Women Who Inspire and Empower

Everyone has a story. It's through the sharing of our stories that we can learn, encourage, and challenge one another in ways that inspire hope and possibility.

On 29 October 2020, at the Technology, Industry, and Education (TIE) webinar series during the 2020 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2020), a panel of five extraordinary women in science, technology, engineering, and mathematics (STEM) convened to share their stories and the lessons they have learned. In the launch of the first "Inspire and Empower" webcast, a women's empowerment event, these STEM leaders took us beyond the veil of their careers to share their truths that success didn't just happen overnight. Not only does it take time: it takes courage. And, regardless of one's background, courage is built through a determined mind and the day-to-day practice of making intentional decisions.

The event was coorganized by the IEEE Geoscience and Remote Sensing Society (GRSS) Inspire, Develop, Empower, and Advance (IDEA) Committee and Women in Science, Engineering, and the Environment (WISE-E). More than 200 people registered for the event (approximately 80 in actual attendance), representing nearly 25 countries, including Australia, Norway, Sudan, South Africa, and Ethiopia. We heard from each of the panelists in their own words through short videos showcasing their individual experiences.

Here are just a few nuggets of wisdom they offered about their journeys.

- *Be authentic:* In other words, "don't compare yourself to others," said Annemarie Klaasse (Figure 1), senior project manager of eLEAF, The Netherlands. She attributes motherhood to helping her become a better leader and being more intentional about doing what

she really enjoys. "If you are doing something you don't like, you can't sustain it."

- *Set boundaries:* "Say yes to learning things, yes to making new friends, yes to challenges," encourages Dr. Swastika Chakraborty (Figure 2), associate professor in the Electronics and Communication Engineering Department, Sikkim Manipal Institute of Technology, India. "But don't compromise your



FIGURE 1. Annemarie Klaasse, senior project manager, eLEAF, The Netherlands.

personal dignity, your family values ... and know, respect, and love yourself."

- ▶ *Ask for help:* Dr. Patricia Oliva (Figure 3) is an assistant research professor at the Hémera Center for Earth Ob-

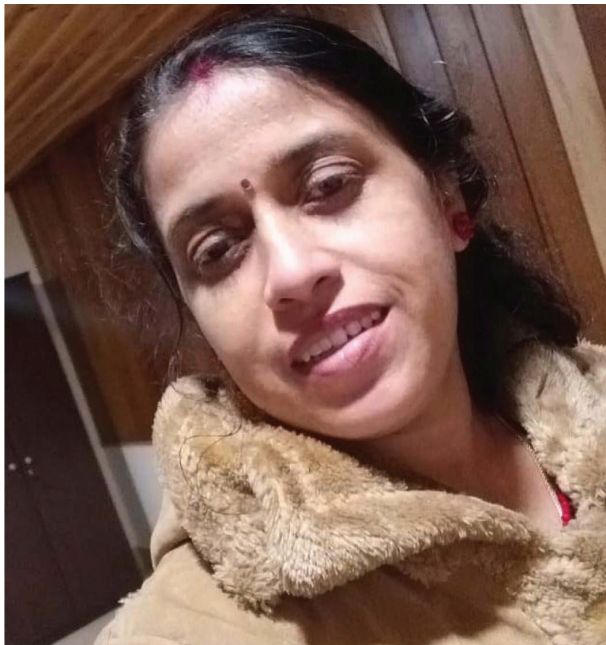


FIGURE 2. Dr. Swastika Chakraborty, associate professor, Electronics and Communication Engineering Department, Sikkim Manipal Institute of Technology, India.



FIGURE 3. Dr. Patricia Oliva, assistant research professor, Hémera Center for Earth Observation, Universidad Mayor, Santiago, Chile.

servation, Universidad Mayor, Santiago, Chile, who is not afraid to take big risks. She moved her entire family, including a young child and her five-month-old baby, to a different country and continent to take on a new career opportunity. She advises anyone to travel all over the world as much as you can, be open to possibilities, and never be afraid to ask for help. "You won't know everything," she says, "and asking for help is one way you learn and grow."

- ▶ *Become your own champion:* Gladys Mosomtai (Figure 4), a Ph.D. fellow with the International Centre of Insect Physiology and Ecology, Nairobi, Kenya, and the University of KwaZulu-Natal, Durban, South Africa, believes that anyone can rise above challenges and that there is nothing that is impossible. "There's a way out in every challenge," says the Kenyan, who emphasized the importance of waking up with a positive mindset. She shared some of the hardships young girls face in Kenya, such as walking to school barefoot. "You have to get out of the box that the community and society put you in."
- ▶ *Trust your inner voice:* "Trust your gut feeling," says Dr. Ana Ferreras (Figure 5) about where her confidence comes from, "and don't internalize what other people say about you." Ferreras is a senior program officer at the National Academies of Sciences, Engineering and Medicine, Washington, D.C., USA. An advocate for community colleges, she believes young women need to know they don't have to take the traditional path in a STEM career (working in labs). "There are other paths," she exclaims, "so be flexible."

Other women who were celebrated on the webcast included the 10 finalists from the IGARSS 2020 Women in Geoscience #InspireUs photo contest. The inspiring entries



FIGURE 4. Gladys Mosomtai, Ph.D. fellow, the International Centre of Insect Physiology and Ecology, Nairobi, Kenya, and the School of Agricultural, Earth, and Environmental Sciences, University of KwaZulu-Natal, Durban, South Africa.

were submitted from women around the world who are making their marks in the geosciences and remote sensing arenas. Not only were the photos judged for creativity and motivation, but the stories behind the photos were also judged for authenticity and impact.

Congratulations to the first-place photo contest winner, Aikaterini Tavri (Figure 6), from the University of Victoria, Canada. Tavri is a Ph.D. candidate focusing on the microwave remote sensing of sea ice and was one of two women on the Canadian Remote Sensing Team to



The National Academies of SCIENCES ENGINEERING MEDICINE

FIGURE 5. Dr. Ana Ferreras, senior program officer, the National Academies of Sciences, Engineering, and Medicine, Washington, D.C., USA.

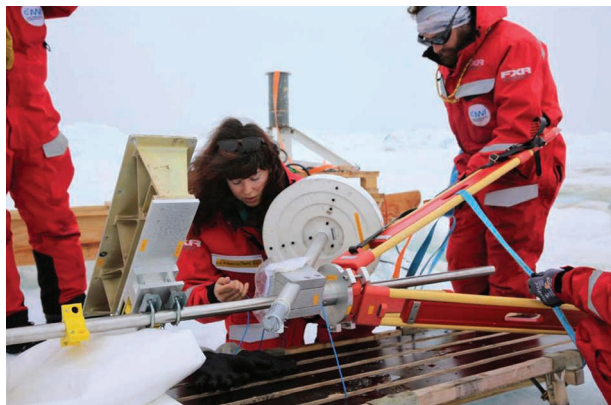


FIGURE 6. The first-place winner in the Women in Geoscience #InspireUs photo contest. Submitted by Aikaterini Tavri, the University of Victoria, Canada.

be a part of the Multidisciplinary Drifting Observatory for the Study of Arctic Climate expedition. Our second-place winner was Rabia Munsaf Khan (Figure 7), a Ph.D. researcher with the College of Environmental Science and Forestry, the State University of New York, Syracuse, USA. Khan shared her experiences inspiring young scientists through the fourth Space Summer School organized by the Institute of Space Technology, in Islamabad, Pakistan. In third place, we had a tie. Mary Immaculate Neh Fru (Figure 8), a geoscientist and Ph.D. student with

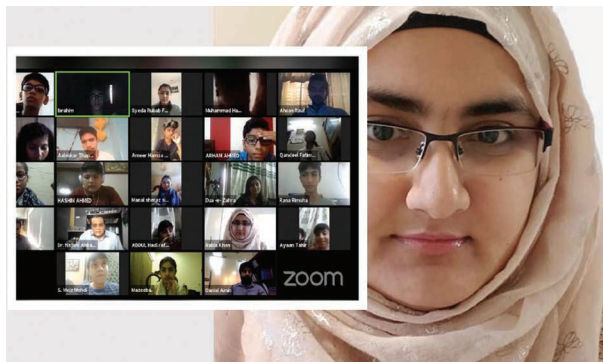


FIGURE 7. The second-place winner in the Women in Geoscience #InspireUs photo contest. Submitted by Rabia Munsaf Khan, College of Environmental Science and Forestry, the State University of New York, Syracuse, USA.



FIGURE 8. The third-place (tie) winner in the Women in Geoscience #InspireUs photo contest. Submitted by Mary Immaculate Neh Fru, Center for Geological and Mining Research, the University of Buea, Cameroon.

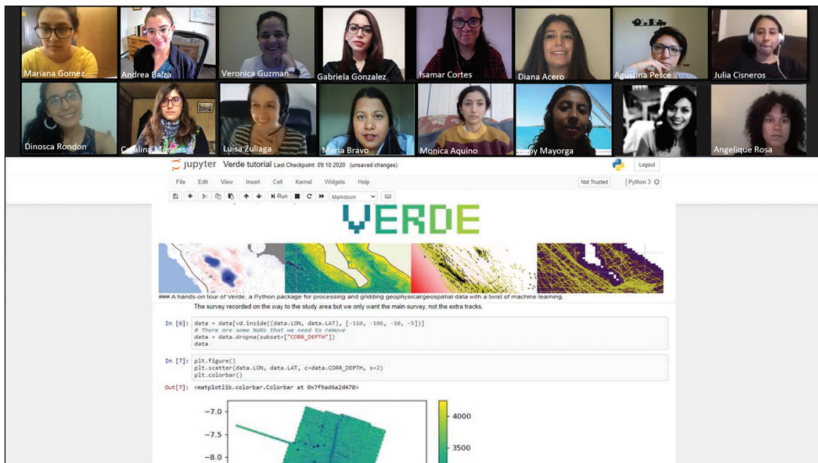


FIGURE 9. The third-place (tie) winner in the Women in Geoscience #InspireUs photo contest. Submitted by the Geolatinas Coding Group, a worldwide initiative of the Geolatinas Development Committee.

the Center for Geological and Mining Research, University of Buea, Cameroon, gave us insight to her journey as a geologic explorer using remote sensing and digital tools to drive scientific discovery. The Geolatinas Coding

Group (Figure 9), a global initiative of the Geolatinas Development Committee, also shared their inspiring and community-building work, bringing together women from all over the world to improve their geospatial and remote sensing coding skills.

The “Inspire and Empower” webcast seeks to celebrate women from around the world and their extraordinary work in science. To view the entire webcast, please subscribe to the IEEE GRSS YouTube channel. We also want to thank all those who made the event possible, including support from the Georgia Space Grant Consortium and the Global Learning and Observation to Benefit the Environment (GLOBE) program. And special thanks to Ferzam Mohammad from the University of Maryland’s Hack for Impact for his excellent video editing skills.

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IN MEMORIAM *(continued from p. 282)*

as was the evolution of many of the procedures for image processing and analysis that we take for granted today.

Dave was the recipient of many prestigious awards. He was given the NASA Exceptional Scientific Achievement Medal in 1973 for his work in the field of machine analysis methods for remotely sensed Earth observational data. In 1967, he received the NASA and U.S. Department of Interior’s William T. Pecora Award on behalf of LARS. He was also the 1990 recipient of the William T. Pecora Award, in recognition of his individual contributions. In 1992, he received the Distinguished Achievement Award from the IEEE Geoscience and Remote Sensing Society (GRSS) and its Education Award in 2003. In 1999, Dave was elected as Fellow of the American Association for the Advancement of Science and, in 2005, to the National Academy of Engineering, the highest recognition an engineer can receive in the United States. He was a Life Fellow of IEEE.

As much as he was proud of these awards, he was even more proud of his recognition as a teacher and of his influence on many generations of undergraduate and graduate students. He received many best teacher awards from the School of ECE and from Purdue College of Engineering.

Many of his graduate students have gone on to their own distinguished careers.

Dave was president of the GRSS in 1986–1987 and a member of the Administrative Committee from 1979 to 1990. When he retired, he was recognized by the Society with an honorary workshop titled “IEEE Workshop on Advances in Techniques for Analysis of Remotely Sensed Data,” held at the NASA Goddard Space Flight Center in 2003. That led to a special edition of *IEEE Transactions on Geoscience and Remote Sensing* in March 2005 to honor his lifetime achievements. In 2013, the Society instituted the GRSS David Landgrebe Award as a GRSS career award presented for outstanding contributions in the field of remote sensing image analysis.

David Landgrebe was a mentor, advisor, friend, and colleague. We are all the richer for having known him and having benefitted from his wisdom, insight, collaboration, and warmth over many years. We have all lost something with his passing because it signals the end of an era. His legacy, however, will live on in the knowledge that much of our particular niche in the field of science and engineering has been built on the shoulders of a real visionary.

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