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*In conferring the PAFIOO Pamana ng Pilipino Award upon Jane Y. Gerardo-Abaya, the President recognizes her exemplary achievements and groundbreaking contributions to the advancement of geology and geothermal hydrology and relentless advocacy for the safe, secure, and peaceful use of nuclear technologies.*

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## *Jane Y. Gerardo-Abaya*

**Austria**  
**Hometown: Kalibo, Aklan**

In the vast landscape of science, technology, engineering, and mathematics (STEM), women remain significantly underrepresented. Yet, amidst these historically male-dominated fields, there are those who transcend traditional barriers, redefining the narrative and challenging deeply entrenched norms. One such luminary is Dr. Jane Y. Gerardo-Abaya, a woman of unparalleled expertise in applied geology and geothermal hydrology. Her remarkable career stands as a testament to her indomitable spirit and intellectual prowess, breaking new ground not only for herself but for countless women aspiring to make their mark in STEM.

### **Academic Excellence**

A scholar of distinguished merit, Dr. Gerardo-Abaya began her academic journey at the University of the Philippines - Diliman, where she earned her bachelor's degree in Geology in 1981. Her interest in geology was not merely an academic pursuit; it was a passion ignited by her curiosity for the natural wonders of her surroundings, and inspired since childhood in Aklan by her parents. With a thirst for knowledge that could not be quenched, she pursued a Master

of Science in Geology at the same institution, completing all her academic units. But her ambitions reached even higher, leading her to the prestigious *Universität für Bodenkultur Wien* (University of Natural Resources and Life Sciences) in Vienna, Austria, where she obtained a doctorate degree in applied geology and geothermal hydrology in 2004. Graduating with honors, her solid academic achievements provided the foundation for a career that would span over four decades, marked by groundbreaking contributions to both geology and nuclear science.

### **Groundbreaking Contributions**

From 1982 to 2023, Dr. Gerardo-Abaya dedicated her life to advancing nuclear science and geology. Her journey in this field began in the Philippines, where she worked as a Senior Environmental Planning Researcher at the Department of Environmental and Natural Resources (DENR), overseeing environmental projects with international technical support. As the counterpart geologist for the Asian Development Bank (ADB), she contributed to vital groundwater salinity studies, enhancing the understanding of water resources in the region. Her influence reached even further through

foreign-assisted projects with international bodies like the International Atomic Energy Agency (IAEA) and the International Development Research Centre (IDRC), where she played a crucial role in implementing sustainable solutions for energy and environmental challenges.

Her exemplary service in public sector science continued as a geologist and geochemist at the Philippine National Oil Company (PNOC)—Energy Development Corporation. Her work extended to geothermal exploration and development, where she contributed to the management of geothermal reservoirs, utilizing her expertise to harness the earth's natural energy sources.

### **Geothermal Hydrology**

During her 30-year tenure at IAEA, Dr. Gerardo-Abaya's knowledge of geothermal hydrology has left an indelible impact on over 70 countries across multiple continents. Her expertise has been sought after in a variety of contexts, from developing nations seeking sustainable energy solutions to advanced economies looking to enhance their geothermal capabilities. One of her most significant contributions is her work in developing projects to address marine pollution and harmful algal blooms, leading to regulatory measures in various nations.

Her published works on geothermal exploration techniques are highly regarded and continue to shape the scientific field, providing guidelines and methodologies that have become essential tools for researchers and practitioners alike. Moreover, her leadership in technical cooperation projects has expanded the peaceful use of nuclear science, focusing on human capacity building and infrastructure enhancement.

Her contributions to the scientific community also include research on geothermal systems in Southern Negros in the Philippines, Miravalles Volcano in Costa Rica, and other countries for groundbreaking applications of isotope techniques in geothermal energy development.

### **Nuclear Science Education**

In her ascent to leadership roles, Dr. Gerardo-Abaya played a pivotal role in shaping nuclear science education and application across Asia and the Pacific. She has organized numerous workshops and training programs, fostering a culture of collaboration and knowledge exchange among scientists, engineers, and educators. Her leadership and commitment reached vast audiences, fostering deeper understanding and engagement with nuclear technologies.

Her academic contributions also extend to the classroom, where she served as a Visiting Lecturer at the Institute of Applied Geology in Vienna, imparting knowledge on isotope hydrology and mentoring postgraduate students. Her teaching style is characterized by her passion for the subject and her dedication to nurturing the next generation of scientists, inspiring her students to push the boundaries of knowledge and innovation.

As the Director of the Division of Technical Cooperation for Asia and the Pacific at the IAEA, Dr. Gerardo-Abaya oversaw the production of 11 significant publications. These works span a range of topics, from the success stories of member states to the integration of nuclear science and technology into secondary education. The publications also include socio-economic assessments of IAEA's technical assistance and educational materials aimed at fostering a deeper understanding of nuclear science and technology among students.

### **Civic Engagement**

Dr. Gerardo-Abaya has remained deeply committed to civic engagement and the advancement of STEM education. As a co-founder of organizations, such as the UP Cwm Zena'na and the Philippine-Austrian Cultural and Education Society (PACES), she has dedicated herself to promoting science as a tool for national development and empowering young women and aspiring scientists.

Through her involvement with these organizations, she has consistently displayed a steadfast commitment to advancing educational opportunities for women and promoting the interests of young adults in the fields of STEM in the Philippines. Her initiatives have included scholarship programs, mentorship opportunities, and workshops designed to equip young women with the skills and confidence they need to thrive in STEM careers. Her efforts have not only transformed lives but have also contributed to a more equitable and inclusive scientific community.

### **With Honors**

Throughout her illustrious career, Dr. Gerardo-Abaya has been honored with numerous awards, including the prestigious Medal for the Cause of Science and Technology (2024) from the Vietnam Ministry of Science and Technology. For her extraordinary performance and contributions to the field of geology and nuclear science and technology, IAEA also conferred upon her the Recognition Award for Exceptional Service (2020), Superior Achievement Award (2017), Distinguished Service Award (2008), and Special Service Award (2007), among others. Each recognition serves as a reminder of her tireless efforts to advance science for the benefit of humanity and her unwavering dedication to the pursuit of knowledge. As a staff member, she is also a co-awardee of the IAEA's Nobel Peace Prize in 2005.

Dr. Gerardo-Abaya's journey is an inspiring narrative of determination and resilience, demonstrating that with passion and perseverance, it is possible to challenge the status quo and inspire change. Her story is a beacon of hope for young women everywhere, proving that they, too, can carve their paths in fields that have long been deemed inaccessible. She has shattered the glass ceiling in STEM, leaving a lasting legacy of inclusivity, excellence, and empowerment for generations to come.