



**UNIBERSIDAD NG PILIPINAS**  
**Diliman, Lungsod ng Quezon 1101**

FGM 2022-043

1 August 2022

Dr. Reynaldo E. de la Cruz  
Chair, PhilAAST Awards Committee

Dear Dr. De la Cruz,

Subject: **Nomination of Dr. Mary Donnabelle L. Balela**

It is my privilege to nominate Dr. Mary Donnabelle L. Balela, a full professor from the Department of Mining, Metallurgical, and Materials Engineering, College of Engineering, University of the Philippines Diliman, **for the Gregorio Y. Zara Award for Applied Science Research.**

Dr. Balela has established the Sustainable Electronic Materials Group in 2012, a research group that focuses on the fabrication of sustainable materials for various applications such as in energy, environment, and electronics (3E's). Her research works help strengthen the country's capabilities. In her laboratory, they fabricate and study different materials locally abundant in the Philippines as alternative materials for the expensive rare earth metals commonly employed, such as platinum and iridium for energy generation technologies (e.g., energy storage devices, electrolyzer technologies). They also develop methods that would turn seemingly useless materials such as waste ores, geothermal scales, scrap metals, kapok fibers, disposable X-ray films, etc. to fabricate new materials that can be used and regenerated for removing pollutants in water such as heavy metals and oil spills, and producing silver nanoparticles for various electronic applications. They have also developed methods that enables a cheap, recyclable, and up-scaled production of silver nanowires for the fabrication of flexible, transparent electrodes that can be used for transparent touch panels. They also delved into fabricating self-cleaning and antibacterial surfaces to address the need for a safer and healthier living environment. Their research agenda fosters circular economy.

She has received several notable awards, including the 2020 Encouragement Award from the Hitachi Global Foundation Asia Innovation Award for her work on customizable sorbents based on kapok fibers. She was also the runner-up in the 2019 ASEAN-US Science Prize for Women given by the ASEAN-COSTI, USAID and Underwriters Laboratory for her work on circular economy. She is the 2019 DOST Outstanding Research and Development Awardee for Applied Research for her work on Ag NW-based flexible electronic devices, 2021 and 2018 University of the Philippines Outstanding Engineering Researcher, 2016 Philippine National Academy of Science and Technology Outstanding Young Scientist for Materials Science and Engineering, and 2020-2022 UP Scientist III.

Aside from her research, she is active in mentoring and extension work. Just this year, her student received the Dr. Francis Chua Innovation Award for Design for the Undergraduate Project Competition of the College of Engineering. She also regularly conducts science outreach programs to promote STEM to the youth with the help of the Global Young Academy, an international organization for young scientists supported by the German Ministry of Science, Interacademy partnership, and International Science Council, among others.

I believe that her contributions and achievements make her deserving of the Gregorio Y. Zara Award for Applied Science Research award. Attached is her curriculum vitae.

Respectfully yours,

  
**Prof. Ferdinand G. Manegdeg**  
Dean and Executive Director

