

DOST-NAST cites DOST-ITDI for industrial design, utility model, international publication awards



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The National Academy of Science and Technology (DOST-NAST) cited DOST-ITDI in three major award categories in rites during the 2024 DOST Intellectual Property Awards Ceremony held on November 25, 2024 at the Vivere Hotel, Alabang, Muntinlupa City.

The categories include the DOST International Publication Award **and the** DOST Granted Patent, Utility Model, and Industrial Design (GP/UM/ID) Awards.

The former is given annually to scientists and researchers of the Department who were able to publish their research outputs in Web of Science/Clarivate Analytics or Scopus-indexed journals in the last three years before the year of the nomination.

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The **latter** is given in recognition of the efforts of DOST technology developers whose technologies have been granted patent/utility model/ industrial design registration in the last three years preceding the award.

ITDI received 40 citations. These include 1 for Industrial Design, 23 for Utility Model, and 16 for International Publication Awards, as follows:

Industrial Design Award

1. Apparatus for Wastewater Treatment Using Activated Sludge
Technologists: Rochelle L. Retamar, Rodelma D. Perez, Prima Joy F. Margarito, Reynaldo L. Esguerra, Dante C. Vergara, Reymundo K. Adan, Joeco S. Arvesu
Registration Number: 32022050138

Utility Model Registration Award

1. Apparatus for Wastewater Treatment Using Activated Sludge
Developers: Rochelle L Retamar, Rodelma D Perez, Prima Joy F Margarito, Reynaldo L. Esguerra, Dante C Vergara, Reymundo K Adan, Joeco S Arvesu
Registration Number: 2/2022/050068

2. Process for Producing Polypropylene Filament for 3D Printing Reinforced with Glass Fiber
Developers: Johanna Marie B. Sudayon, Marissa A. Paglicawan, Alvin Kim M. Collera, Nolan M. Villanueva, Josefina R. Celorico, Blessie A. Basilia
Registration Number: 2/2022/051055

3. Method of Preparing Total Volatile Basic Nitrogen Spoilage Label
Developers: Ray Anne Grace M. Garalde, Darylle Jerome I. Ortiz, Mary Joy P. Paico, Daisy E. Tanafraña
Registration Number: 2/2022/051047

4. Plasticized Polylactic Acid Filament for 3D Printing Reinforced with Alumina Nanofiller
Developers: Marvin S. Tolentino; Blessie A. Basilia
Registration Number: 2/2022/051057

5. Filter Cartridge for Pellet Adsorbers in Household Water Purification System

Developers: Josefina R. Celorico, Sharyjel R. Cayabyab, Juan V. Zabala, Alvin Kim M. Collera, Mar Christian O. Que, Ruben C. Loberiano, Rosemarie B. Antinopo, Leonora E. Samson, Jenny Lyn H. Laga, Blessie A. Basilia
Registration Number: 2/2021/050159

6. Biocomposite Scaffold from Natural Cellulose Acetate and Biphasic Calcium Carbonate

Developers: Gladys G. Paglinawan, Jasper T. Castor, Kenneth D. Barroga, Jayvee Tyron L. Uy, Anthony C. Sales
Registration Number: 2/2022/051049

7. Process for Producing Two-Component Calcium Phosphate Powder

Developers: Josefina R. Celorico, Sharyjel R. Cayabyab
Registration Number: 2/2022/051043

8. Polypropylene Filament for 3D Printing Reinforced with Nano Precipitated Calcium Carbonate

Developers: Marlo Joseph D. Comadre, Jo Ann C. Sy, Josefina R. Celorico, Alvin Kim M. Collera, Marianito T. Margarito, and Blessie A. Basilia
Registration Number: 2/2022/051054

9. Packaging System for Bakery Products

Developers: Cynthia M. Bihis, Ericson T. Nolasco, Carinna T. Saldaña-Pierard, Daisy E. Tañafrañca, Jose Roger N. Talamor
Registration Number: 2/2022/050070

10. Packaging System for Confectionery Products

Developers: Floridel V. Loberiano, Grace D. Noceja, Ermin S. Orendain, Allan T. Quirante, Vicente P. Casas, Daisy E. Tañafrañca
Registration Number: 2/2022/050069

11. Polylactic Acid Filament for 3D Printing Reinforced with Alumina Nanofiller

Developers: Persia Ada N. de Yro, Blessie A. Basilia, Marvin S. Tolentino
Registration Number: 2/2022/051056

12. Household Water Purification System with Two Stage-Filtration

Developers: Josefina R. Celorico, Sharyjel R. Cayabyab, Juan V. Zabala, Alvin Kim M. Collera, Mar Christian O. Que, Ruben C. Loberiano, Rosemarie B. Antinopo, Leonora E. Samson, Jenny Lyn H. Laga, Blessie A. Basilia
Registration Number: 2/2021/050158

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13. Process for producing shelf-stable chicken egg in brine

Developers: Michelle E. Evaristo, Ma. Bettina A. Macaraeg, Ma. Dolor L. Villaseñor, Oscar T. Magora Jr.

Registration Number: 2/2022/050067

14. Shelf-Stable Rice Milk

Developers: Ma. Bettina A. Macaraeg, Christine Ann S. Tila, Oscar T. Magora Jr., Elmer C. Magora

Registration Number: 2/2022/051134

15. Method of producing rice milk using retort sterilization

Developers: Ma. Bettina A. Macaraeg, Christine Ann S. Tila, Oscar T. Magora Jr., Elmer C. Magora

Registration Number: 2/2022/051133

16. Process of Producing Dehydrated Fruit Product

Developers: Rommel M. Belandres, Ma. Dolor L. Villaseñor, Donah Jane C. Lusanta, Ma. Bettina A. Macaraeg

Registration Number: 2/2023/051541

International Publication Award

1. Diopol, G. A., Elegado, F. E., Castillo-Israel, K. T., Torio, M. O., Uy, L.C. (2023).

Production of High-maltose Syrup from Selected Rice (*Oryza sativa* L.) Bran by Enzymatic Method. *Philippine Journal of Science*, 152(2): 571-580.

2. Mantaring, S. D., Santos, J. R. K. D., Estrella, R., Jose, J. P. G., Castro, I. J. L., Bigol, U. G., & Guzman, J. P. M. D. (2024). *Terminalia catappa* L. leaf extract interferes with biofilm formation of *Vibrio parahaemolyticus* and enhances immune response of *Penaeus vannamei* against acute hepatopancreatic necrosis disease (AHPND). *Aquaculture*, 579, 740266.

3. Pangayao, D. C., Borromeo, C. C., Premacio, A. R. (2022). Immobilization of Dredge Material as Partial Substitute for the Production of Mortar. *Journal of Applied Science and Engineering*, 26(7): 1039-1045.

4. Aranez, S.A. C., Basilia, B. A., Collera, A. K. M., Margarito, M. T. (2022). Effect of Line Width and Wall Count on the Compressive Strength of Single and Functionally Graded Additively Manufactured ABS Gyroid Structure. *Materials*.

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Science Forum, 1086, 71-77.

5. Almeria, K.Y.P., Comadre, M.J.D., Margarito, M.T., Celorico, J.R., Uy, S.M. (2023).

Performance Investigation of Air Mask: A Novel Personalized Ventilation Device using CFD Simulation against Virus-Laden Aerosols.

14th International Conference on Mechanical and Intelligent Manufacturing Technologies.

6. Tolentino, M. S., & Basilia, B. A. (2022). Influence of Styrene-Ethylene-Butylene-Styrene and Stearic Acid on Poly (lactic) Acid/Alumina Filament Composite for Fused Deposition Modeling Application.

Solid State Phenomena, 337, 3-10.

7. Ysulat, M. L. M., Ysulat, J. A. N., Caparanga, A. R., Pasag, J. M., & Cruz, R. A. T. (2023).

Fabrication and surface characterization of lignin-polyamide thin film composite membrane for reverse osmosis desalination.

Journal of Membrane Science and Research, 9(4).

8. del Pozo Jr, F. E., Kim, C. K., & Kim, H. G. (2023). Refining the Selection of Historical Period in Analog Ensemble Technique.

Energies, 16(22), 7630.

9. Fajardo, L. E., Macalalad, M. A., Odchimar, N. M., de Guzman, J. C., & Orosco, F. (2024). Computational design and validation of siRNA molecules to silence oncogenic CTNNB1 mRNA as a potential therapeutic strategy against hepatitis B/C virus-associated hepatocellular carcinoma.

Pharmacia 71: 1–14.

10. Macalalad, M. A. B., & Orosco, F. L. (2024). In silico identification of multi-target inhibitors from medicinal fungal metabolites against the base excision repair pathway proteins of African swine fever virus.

RSC Advances, 14(14), 10039-10055.

11. Sira, E.M.J.S., Banico, E.C., Odchimar, N.M.O., Fajardo, L.E., Fremista, F.F., Refuerzo, H.A.B., Dictado, A.P.A., & Orosco, F. (2024). Immunoinformatics approach for designing a multiepitope subunit vaccine against porcine epidemic diarrhea virus genotype IIA spike protein. Open Veterinary Journal. 14(5), 1224.

12. Macalalad, M. A. B., Odchimar, N. M. O., & Orosco, F. L. (2024). High-throughput virtual screening of *Streptomyces* spp. metabolites as antiviral inhibitors against the Nipah virus matrix protein. *Computational Biology and Chemistry*, 112, 108133.
13. Futralan, C. C., Diana, E., Edang, M. F. A., Padilla, J. M., Cenia, M. C., & Alfeche, D. M. (2023). Adsorption of Lead from Aqueous Solution Using Activated Carbon Derived from Rice Husk Modified with Lemon Juice. *Sustainability*, 15(22), 15955.
14. Encarnacion, E. K. P., Alcantara, A. C., Armario, H. E., Alejandro, W. P., Zhan, Z., & Sun, Z. (2024). Preliminary Screening of Per- and Polyfluoroalkyl Substances (PFAS) in Philippine Fast Food Packaging Using Liquid Chromatography–Mass Spectrometry (LC-MS). *Current Research in Nutrition and Food Science Journal*, 12(1), 423-436.
15. Simbulan, A. M., Banico, E. C., Sira, E. M. J. S., Odchimar, N. M. O., & Orosco, F. L. (2024). Immunoinformatics-guided approach for designing a pan-proteome multi-epitope subunit vaccine against African swine fever virus. *Scientific Reports*, 14(1), 1354.
16. Manalo, M. R., Falco, M. E. M., Gomez, R. M., Cruz, K. A. S. D., Estudillo, P. M. N., Ramos, J. M. F., Flores, B.B. Jr., & Cortado, C. N. U. (2023). Utilization of Out-of-specification Unripe Cavendish Banana [*Musa acuminata* (AAA)] as Banana Powder. *Philippine Journal of Science*, 152(5), 1831-1846.
17. Tolentino, M. S., Almeria, K. Y., & Basilia, B. A. (2023). Prediction of Mechanical Properties and Failure Behavior of Nano-Alumina Reinforced Poly (Lactic) Acid Composite for Fused Deposition Modeling 3D Printing via Finite Element Analysis. *Materials Science Forum* (Vol. 1085, pp. 9-16). Trans Tech Publications Ltd.
18. Dablio, A. R. C., Kalacas, N. A. P., Abarintos, V. R., Ubando, I. E., Damian, R. L., Valdueza, J. A. C. (2023). Estimation of Measurement Uncertainty for the Analysis of Arsenic in Water by Hydride Vapor Generation–Atomic Absorption Spectrometry. *Philippine Journal of Science*, 152 (3): 957-965.
19. Odchimar, N. M. O., Macalalad, M. A. B., & Orosco, F. L. (2024). From antibiotic to antiviral: computational screening reveals a multi-targeting antibiotic from *Streptomyces* spp. against Nipah virus fusion proteins. *Molecular Diversity*, 1-15.

20. Bongao, H., Manjaiah, M., de Yro, P. A., Pasco, J., McCarthy, T., Nyamuchiwa, K., & Aranas, C. (2024). High-temperature mechanical properties of additively manufactured 420 stainless steel. *Materials Research Express*, 11(5), 056501.

21. Castro, I. J. L., Rivera, A. M. B., Kim, M., & GuceBigol, U. P. (2023). Effect of dextran and concentrated fructose from *Weissella cibaria* in the physicochemical and sensory properties of milk bread (pan de leche), gelato and calamansi (*Citrus microcarpa*) juice. *International Journal of Food Science & Technology*, 58(12), 6445-6455.

22. Bauzon, C. C., & Robielos, R. A. (2023). Analyzing the Factors Affecting the Behavioral Intention of Customers in a Testing Laboratory Facility Using Structural Equation Modeling. *Proceedings of the 2023 5th World Symposium on Software Engineering* (pp. 78-86).

23. Nada, M. A. L., Ancla, J. B., Yadao, N. M. R., de Paz, V. P., Manalaysay, J. G., Samante, F. L. D., & Bigol, U. G. (2023). Isolation and genome sequencing of five lytic bacteriophages from hospital wastewater in the Philippines. *Microbiology Resource Announcements*, 12(9), e00311-23.

The award recipients received a certificate of recognition and a cash incentive from NAST PHL.

Kudos to the awardees! Continue spreading your wings and taking the products of STI to higher heights and broader horizons. (DDGotis\ ITDI S&T Media Service)