

ANTHONY JAMES DEL MUNDO FRANCO

ResearchGate: <https://www.researchgate.net/profile/Anthony-James-Franco>

EDUCATIONAL BACKGROUND

Bachelor of Science in Agricultural Chemistry	2013	University of the Philippines Los Baños
Master of Science in Agricultural Chemistry	2018	University of the Philippines Los Baños

AWARDS RECEIVED

- 2021 **FPSAP Best Poster- Second Place (Crop Production and Management/Protection (CPM))** (Given during the Federation of Plant Science Associations of the Philippines (FPSAP) Scientific Conference) for the poster paper titled: "Plant Disease Surveillance Using Carbohydrate-Functionalized Magnetic Nanoparticles" by MV Purificacion, AC Dote, AS Juan, MD Babaan, **AJDM Franco**, FM Dela Cueva, DG Alvindia, DM Amalin, EC Alocilja, & LM Fernando
- 2021 **Second Place (Convergence - Sustainable Health and Other Cross-cutting Topics Category)** (Given during the 2021 Global Alliance for Rapid Diagnostics Innovation Forum) for the poster paper titled: "Rapid detection of *Lasiodiplodia theobromae*, a causal pathogen of Vascular Streak Dieback (VSD)-like symptoms in Cacao, using magnetic and metallic nanoparticles" by MV Purificacion, AC Dote, **AJDM Franco**, FM Dela Cueva, DG Alvindia, DM Amalin, EC Alocilja, & LM Fernando
- 2021 **Invention Disclosure Award** (Given for the invention "Development of DNA-based Nano-biosensors for Food and Environmental Applications" developed by LM Fernando and **AJDM Franco**).
- 2019 **Best Poster Award** (Given during the 1st Symposium of Japan Society for the Promotion of Science Core-to-Core Program) for the poster paper titled: "Detection of Plant Pathogens Using A DNA Based Nanosensor" by JMD Esguerra, **AJDM Franco**, MDB Babaan, AS Juan, DM Amalin, EC Alocilja, & LM Fernando.
- 2018 **Best Poster Presentation** (Given during the 47th Annual Convention of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines) – Southern Tagalog Chapter) for the poster paper titled: "Antifungal activity of Copper(II) oxide nanoparticles (CuONPs) against the phytopathogen *Fusarium oxysporum*" by KLT Santos, **AJDM Franco**, MTJA Atienza, and LM Fernando.
- 2018 **Shimadzu Innovation Prize** (Given during the 6th Materials of Value and Essence (MOVE) Symposium) for the poster paper titled: "Parametric study on the extraction of genomic DNA from *Phytophthora palmivora* (Butler) Butler using magnetic nanoparticles" by **AJDM Franco**, MS Rodriguez, DM Amalin, JF Balidion, EC Alocilja, and LM Fernando.

- 2017 **Invention Disclosure Award** (Given for the invention “Detection and Analysis of Arsenic in Contaminated Water” developed by MAO Torio, RK Bravo, MD Babaan, JK Bartolome, AC De Guzman, and **AJDM Franco**).
- 2013 **Best Paper Award (Chemistry and Physics)** (Given during the 6th UPLB – CAS Student Faculty Research Conference) for the oral paper titled: “Analysis of Inorganic Arsenic In Water Samples Using Differential Pulse Cathodic Stripping Voltammetry (DPCSV)” by **AJDM Franco**, JL Solivas, MM Peralta, and MGE Guardian.
- 2013 **Best Oral Paper** (Given during the 42nd Annual Convention of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines) – Southern Tagalog Chapter) for the oral paper titled: “Method Development and Validation for the Analysis of Inorganic Arsenic (III) and Total Inorganic Arsenic In Water Samples Using Differential Pulse Cathodic Stripping Voltammetry (DPCSV)” by **AJDM Franco**, JL Solivas, MM Peralta, and MGE Guardian.
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WORK EXPERIENCE

Institute of Chemistry, University of the Philippines Los Baños

College, Laguna, Philippines

Assistant Professor

August 2018 to July 2022

Instructor

June 2013 to July 2015

National Institute for Molecular Biology and Biotechnology,

University of the Philippines Los Baños

College, Laguna, Philippines

University Research Associate

May 2016 to July 2018

National Crop Protection Center, University of the Philippines Los Baños

College, Laguna, Philippines

University Research Associate

November 2015 to April 2016

PUBLICATION

Franco, A. J. DM., Merca, F. E., Rodriguez, M. S., Balidion, J. F., Migo, V. P., Amalin, D. M., Alocilja, E. C. & Fernando, L. M. (2019). DNA-based electrochemical nanobiosensor for the detection of *Phytophthora palmivora* (Butler) Butler, causing black pod rot in cacao (*Theobroma cacao* L.) pods. *Physiol Mol Plant Path*, 107, 14-20.

AUTHORED AND CO-AUTHORED PAPERS AND POSTERS PRESENTED IN SCIENTIFIC MEETINGS/CONFERENCES/SPECIAL SEMINARS

Purificacion, M. V., Dote, A. C., Juan, A. S., Babaan, M. D., **Franco, A. J. DM.**, Dela Cueva, F. M., Alvindia, D. G., Amalin, D. M., Alocilja, E. C., & Fernando, L. M. (2021, September). *Plant Disease Surveillance Using Carbohydrate-Functionalized Magnetic Nanoparticles*. Paper presented at the Federation of Plant Science Associations of the Philippines (FPSAP) Scientific Conference. Online.

Purificacion, M. V., Dote, A. C., **Franco, A. J. DM.**, Dela Cueva, F. M., Alvindia, D. G., Amalin, D. M., Alocilja, E. C., & Fernando, L. M. (2021, June). *Rapid detection of Lasiodiplodia theobromae, a causal pathogen of Vascular Streak Dieback (VSD)-like symptoms in Cacao, using magnetic and metallic nanoparticles*. Paper presented at the 2021 Global Alliance for Rapid Diagnostics Innovation Forum. Online.

Esguerra, J. M. D., **Franco, A. J. DM.**, Babaan, M. D. B., Juan, A. S., D. M., Alocilja, E. C. & Fernando, L. M. (2019, November). *Detection Of Plant Pathogens Using A DNA Based Nanosensor*. Paper presented at the 1st Symposium of Japan Society for the Promotion of Science Core-to-Core Program, Manila, Philippines.

Santos, K. L. T., **Franco, A. J. DM.**, Atienza, M. T. J. A., Fernando, L., M. (2018, September). *Antifungal activity of Copper(II) oxide nanoparticles (CuONPs) against the phytopathogen Fusarium oxysporum*. Paper presented at the 47th Annual Convention of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines) – Southern Tagalog Chapter, Batangas, Philippines.

Franco, A. J. DM., Merca, F. E., Rodriguez, M. S., Balidion, J. F., Migo, V. P., Amalin, D. M., Alocilja, E. C. & Fernando, L. M. (2018, September). *Electrochemical detection of Phytophthora palmivora in Soil using a DNA-based nanobiosensor*. Paper presented at the 47th Annual Convention of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines) – Southern Tagalog Chapter, Batangas, Philippines.

Franco, A. J. DM., Rodriguez, M.S., Amalin, D. M., Balidion, J. F., Alocilja, E. C., & Fernando, L. M. (2018, July). *Parametric study on the extraction of genomic DNA from Phytophthora palmivora (Butler) Butler using magnetic nanoparticles*. Paper presented at the 6th Materials of Value and Essence (MOVE) Symposium, Laguna, Philippines.

Franco, A. J. DM., Merca, F. E., Amalin, D. M., Balidion, J. F., Alocilja, E. C., & Fernando, L. M. (2018, February). *Nanobiosensor for the Detection of Phytophthora palmivora in Cacao (Theobroma cacao L.)*. Paper presented at the AsiaSense 2018: 8th International Conference on Sensors, Manila, Philippines.

Franco, A. J. DM., Balidion, J. F., Mendoza, D. J. R., Elegado, F. B., Alocilja, E. C., & Fernando, L. M. (2016, September). *Electrochemical Nanobiosensors for the Detection of Food – Borne Pathogen Escherichia coli O157:H7 and Phytophthora palmivora in Cacao*. Paper presented at the 1st International Biosensing Technology Workshop and Conference, Manila, Philippines.

De Guzman, A. C. V., Babaan, M. D. D., **Franco, A. J. DM.**, Bravo, R. K. D., Bartolome, J. K. F., Peralta, M. M., & Torio, M. A. O. (2015, April). *Utilization of Gold Nanoparticles Modified with Bacterial Periplasmic Binding Protein for the Spectrophotometric Detection and Analysis of Arsenic (III) In Water Samples*. Paper presented at the 30th Philippine Chemistry Congress, Davao City, Philippines.

Bartolome, J. K. F., Bravo, R. K. D., Babaan, M. D. D., De Guzman, A. C. V., **Franco, A. J. DM.**, Peralta, M. M., Recuenco, M. C., & Torio, M. A. O. (2015, April). *Fluorometric Detection of Arsenic Using Bacterial Periplasmic Binding Protein from Escherichia Coli HMS174*. Paper presented at the 30th Philippine Chemistry Congress, Davao City, Philippines.

Franco, A. J. DM., Solivas, J. L., Peralta, M. M., & Guardian, M. G. E. (2013). *Analysis of Inorganic In Water Samples Using Differential Pulse Cathodic Stripping Voltammetry (DPCSV)*. Paper presented at the 6th UPLB – CAS Student Faculty Research Conference, Laguna, Philippines.

Franco, A. J. DM., Solivas, J. L., Peralta, M. M., & Guardian, M. G. E. (2013). *Method Development and Validation for the Analysis of Inorganic Arsenic (III) and Total Inorganic Arsenic In Water Samples Using Differential Pulse Cathodic Stripping Voltammetry (DPCSV)*. Paper presented at the 42nd Annual Convention of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines) – Southern Tagalog Chapter, Laguna, Philippines.

RESEARCH EXPERIENCE AND OUTPUTS

Research experience:

Electroanalytical chemistry, biosensor development, pathogen sensors

Research involvement:

Project Staff (consultative; March 2020 to July 2022) for the project entitled “*Validation and Pilot Testing of the Portable Nanobiosensor for the Detection of Fungal Diseases of Cacao*” under the program “*Phase II Cacao Pest Management Program: Biologically- Based Approaches*” funded by the Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development of the Department of Science and Technology, Philippines.

Project Staff (consultative; December 2019 to July 2022) for the project entitled “*Development of a Sensor for the On-Site Detection of Salbutamol in Pig Carcass, Entrails and Feed Samples*” funded by Biotechnology Program Office of the Department of Agriculture, Philippines.

Project Staff (consultative; January 2014 to December 2014) for the project entitled “*Detection and Analysis of Arsenic in Contaminated Water*” under the program “*Development of Nanostructured Materials for the Enhancement of food and agricultural Productivity and for Environmental Remediation: Subprogram-Utilizing Nanotechnology from Indigenous Resources for Arsenic Detection and Removal from Groundwater*” funded by Philippine Council for Industry, Energy, and Emerging Technology Research and Development of the Department of Science and Technology, Philippines.

Invention Disclosure:

Detection and Analysis of Arsenic in Contaminated Water developed by MAO Torio, RK Bravo, MD Babaan, JK Bartolome, AC De Guzman, and **AJDM Franco**.

Development of DNA-based Nano-biosensors for Food and Environmental Applications developed by **AJDM Franco** and LM Fernando

RECENT ORGANIZATION INVOLVEMENT

Convention Co-Chair, 50th Annual Convention and 1st International Conference of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines)-Southern Tagalog, Inc.
