

**Balik-PhD Projects  
(Ongoing and Completed in 2016)**

#	PROJECT TITLE	NAME OF PROPONENT	CU	UNIT	BENEFICIARIES	FUNDING SOURCES	DURATION (YEARS)	START	END	STATUS	TOTAL PROGRAM BUDGET	PUBLICATIONS	OTHER OUTPUTS
1	Catalytic valorization of lignin for the production of aromatic chemicals	Aguila, Mae Joanne	UPLB	CAS		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
2	Utilization of sago flour to improve nutritional profile of selected food products	Alviola, Juma Novie	UPMin	CSM	Food technologists/ researchers, academe, food manufacturing industry	Balik-PhD	2	2015	2017	Ongoing	P 2,500,000.00		
3	Identification and functional analysis of the role of non-coding RNAs in hormone-dependent transcriptional regulation	Bagamasbad, Pia	UPD	CSM	Neural development researchers, endocrinologists, gene regulation studies	Balik-PhD	2	2015	2017	Ongoing	P 2,500,000.00		
4	Indoor Air Quality, Airborne Infection, and Ventilation: Exposure Assessment of Hospital Pay and Charity Wards of the Philippine General Hospital	Baja, Emmanuel	UPM	CM	Health practitioners, researchers, academe	Balik-PhD	1	2014	2016	Ongoing	P 1,200,000.00		
5	Transcriptome-based genetic resources for coconut scale insect (CSI) and its susceptible and tolerant host coconuts	Bautista, Ma. Anita	UPD	CS	Molecular biologists, insect pest management operators, coconut industry, coconut farmers	Balik-PhD	2	2015	2017	Ongoing	P 2,495,000.00		
6	Synthesis of inhibitors of mycobacterial cell wall galactan biosynthesis	Completo, Gladys Cherrisse	UPLB	CAS		Balik-PhD	2	2016	2018	Ongoing	P 2,500,000.00		
7	Archaeological human remains from Southeast Asia: A	Crozier, Catherine Rebecca	UPD	ASP	Archaeologists, students, researchers	Balik-PhD	2	2014	2016	Ongoing	P 2,500,000.00		

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	taphonomic approach												
8	Prevalence of mental health problems among Filipino university students: Multi-site, mixed-method research	Del Castillo, Ronald	UPM	CPH		Balik-PhD	2	2016	2018	Ongoing	P2,490,257.00		
9	Development of a Terahertz Time-Domain Spectroscopy (THz-TDS) to evaluate new THz emitters and detectors, and for THz spectroscopic analysis of semiconductor devices, pharmaceuticals testing, and other materials testing applications	Estacio, Elmer	UPD	CS	Semiconductor industry, advanced materials research, pharmaceuticals, researchers, academe	Balik-PhD	2	2014	2016	Completed	P 2,500,000.00	<p><b>1.</b> MH Balgos, JP Afalla, S Vizcara, D Lumantas, E Estacio, A Salvador and A Somintac. 2015. Temperature behavior of unstrained (GaAs/AlGaAs) and strained (InGaAs/GaAs) quantum well bandgaps. Optical and Quantum Electronics 47, 3053-3063. <b>2.</b> MH Balgos, JP Afalla, S Vizcara, D Lumantas, E Estacio, A Salvador and A Somintac. 2015. Temperature behavior of unstrained (GaAs/AlGaAs) and strained (InGaAs/GaAs) quantum well bandgaps. Optical and Quantum Electronics 47, 3053-3063. <b>3.</b> MAB Faustino, LP Lopez Jr, JP Afalla, J Muldera, MJ Felix, AA Salvador, AS Somintac and ES Estacio. 2015. Increased terahertz emission from SI-GaAs deposited with sub-wavelength spacing metal line array. IRMMW-THz 2015 - 40th International Conference on Infrared, Millimeter and Terahertz Waves, Article number 7327918. <b>4.</b> JMM Presto, EAP Prieto, KM Omambac, JPC Afalla, DAO Lumantas, AA Salvador, AS Somintac, ES Estacio, K Yamamoto and M Tani. 2015. Confined photocarrier transport in InAs</p>	The project trained ten (10) graduate students. Among these trainees, three (3) students (MS MSE – 2, MS Physics – 1) completed their Masters programs by way of THz-TDS-related theses. Additionally, the three (3) other Masters graduates continued on and enrolled in the PhD program. and two (2) PhD graduates have obtained postdoctoral research fellowships abroad.

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												pyramidal quantum dots via terahertz time-domain spectroscopy. Optics Express 23, 14532-14540. Doi:10.1364/OE.23.01453 2. <b>5.</b> MAB Faustino, LP Lopez Jr, J Afalla, J Muldera, MJ Felix, AA Salvador, AS Somintac and ES Estacio. 2016. Enhanced terahertz emission from SI-GaAs with a sub-wavelength 1D metal array. 2015 1th Conference on Lasers and Electro-Optics Pacific Rim, CLEO-PR 2015, Article number 7376387.	
10	Surveillance of tick-borne pathogens through PCR and acaricidal resistance in ticks in CALABARZON	Galay, Remil	UPLB	College of VetMed		Balik-PhD	2	2016	2018	Ongoing	P 2,500,000.00		
11	Establishment of a Structured Light Laboratory within the Photonics Research Laboratory of the National Institute of Physics	Hermosa, Nathaniel	UPD	CS		Balik-PhD	2	2015	2017	Ongoing	P2,500,000.00	<b>1.</b> N Barez Jr and N Hermosa. 2015. Propagation dynamics of vortices in helicon-conical optical beams. Optics Communications 356, 236-242 <b>2.</b> ND Barez and N Hermosa. 2016. Subliminal group velocity and dispersion of Laguerre Gauss beams in free space. Scientific Reports 6:26842. Doi:10.1038/srep26842. <b>3.</b> F Steinlechner, N Hermosa, V Pruneri and JP Torres. 2016. Frequency conversion of structured light. Scientific Reports 6:21390. Doi:10.1038/srep21390.	

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12	Discovery of selective antimicrobial agents and probiotic interventions against gut-associated diseases	Ibana, Joyce	UPD	CS		Balik-PhD	1	2014	2016	Ongoing	P2,500,000.00		
13	Organic components of submarine groundwater discharge in Lingayen Gulf	Jaraula, Caroline Marie	UPD	CS		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
14	Marine biodiversity of Taklong Island: Integrating biodiversity knowledge at the molecular, organismal and bioformatic levels	Malay, Maria Celia	UPV	CAS		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
15	Materials for Solar Fuels	Mercado, Candy	UPD	DMM ME		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
16	Molecular Biology of Porcine Rotaviruses and Drivers of Infection: Empowering the Animal Health System in Local Backyard Farm	Murao, Lyre Annie	UPMin	CSM		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
17	In-depth systematic study of fermented foods in the Philippines	Navarro, Richard	UPLB	CA		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
18	Detection of foodborne pathogens along the supply chain of fresh oysters and mussels by Real-time Polymerase Chain Reaction (PCR)	Nuñal, Sharon	UPV	College of Fisheries and Ocean Sciences		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		

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19	Atomic-scale understanding of the interaction of hydrogen (H) atom and carbon monoxide (CO) molecule on copper-palladium (CuPd) surface: An application to biomass-based renewable energy source	Padama, Allan Abraham	UPLB	Institute of Mathematical Sciences and Physics	Researchers, academe	Balik-PhD	2	2015	2017	Ongoing	P2,484,172.00	AAB Padama, H Nakanishi and H Kasai. 2015. Quantum states of hydrogen atom on Pd(110) surface. Applied Surface Science 359, 687-691. Doi:10.1016/j.apsusc.2015.10.148.	
20	A cross-country reserach on natural disaster and risk management	Pajaron, Marjorie	UPD	School of Economics		Balik-PhD	2	2016	2018	Ongoing	P2,492,000.00		
21	Petrology and geochemistry of mantle xenoliths: Implications on the evolution of the mantle wedge beneath the Philippine island arc system	Payot , Betchaida	UPD	CS	Geologists, resource potential and geohazards studies, researchers	Balik-PhD	2	2015	2017	Ongoing	P2,499,636.00		
22	Understanding cell physiology through characterization of the physical properties of cells: an atomic force microscopy perspective	Prieto, Eloisa	UPD	CS	Pathologists, oncologists, medical researchers	Balik-PhD	2	2015	2017	Ongoing	P2,500,000.00		
23	Coping Strategies to Natural Disasters: Micro-Meso-Macro interactions and consequences	Ravago, Majah-Leah	UPD	School of Economics		Balik-PhD	2	2015	2017	Ongoing	P2,499,894.00		

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24	Discovery of small molecule therapeutics from cyanobacteria	Salvador-Reyes, Lilibeth	UPD	CS	Biomedical reseachers, students, academe	Balik-PhD	2	2015	2017	Ongoing	P2,500,000.00	1. LA Salvador-Reyes, J Sneed, VJ Paul and H Luesch. 2015. Amantelides A and B, polyhydroxylated macrolides with differential broad-spectrum cytotoxicity from a Guamanian marine cyanobacterium. Journal of Natural Products 78, 1957-1962. Doi:10.1021/acs.jnatprod.5b00293. 2. Salvador-Reyes, L.A., Luesch, H. "Biological targets and mechanisms of action of natural products from marine cyanobacteria", Nat. Prod. Rep, 2015, 32, 503	
25	Microbial community shifts and enzymatic degradation rates in sediments influenced by plant-based fish feeds	Santander de Leon, Sheila	UPV	College of Fisheries and Ocean Sciences		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
26	Charged Particle System Development for Modification of Polymeric Surfaces	Vasquez, Magdaleno	UPD	Engg	Materials researchers, students, academe	Balik-PhD	2	2014	2016	Ongoing	P2,500,000.00	MR Vasquez Jr and M Wada. 2016. Extraction characteristics of a low-energy ion beam system with a remote plasma chamber. Review of Scientific Instruments 87, 02B924. Doi:10.1063/1.4934207.	Set up the experimental laboratory facility and the Plasma-Material Interactions Laboratory, Laboratory facility is used by a graduate class on vacuum technology and thin film deposition, Mentoring of 12 MS students

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27	Subsistence Strategies and Prey Spectra of First Humans in the Philippines	Volmer, Rebekka	UPD	ASP		Balik-PhD	2	2015	2017	Ongoing	P2,499,744.00		
28	Phytosterols on cellular senescence and senescence-associated inflammation	Velarde, Michael	UPD	CS		Balik-PhD	2	2016	2018	Ongoing	P2,500,000.00		
29	Tapping into novel fungal endophytes for enzymes with biotechnology applications	Yu, Eizadora	UPD	CS	Biotechnology and biotechnological applications, researchers, academe	Balik-PhD	2	2015	2017	Ongoing	P2,500,000.00		