

List of Balik PhD projects

Project Title	Project Leader	CU	Beneficiaries	Funding Source	Start Date	End Date	Total Budget	Publications	Other Outputs (e.g. masteral/doctoral students graduated, patent filed, book, policy paper, etc)
Catalytic valorization of lignin for the production of aromatic chemicals	Aguila Mae Joanne	UPLB	researchers, academe	RF	September 13 2016	October 13, 2018	2,500,000.00		
Utilization of sago flour to improve nutritional profile of selected food products	Alviola, Juma Novie	UPMin	food technologists/ researchers, academe, food manufacturing industry	RF	May 18, 2015	June 17, 2017	2,500,000.00		
Identification and functional analysis of the role of non-coding RNAs in hormone-dependent transcriptional regulation	Bagamasbad, Pia	UPD	neural development researchers, endocrinologists, gene regulation studies	RF	July 13, 2015	July 13, 2017	2,500,000.00		
Transcriptome-based genetic resources for coconut scale insect (CSI) and its susceptible and tolerant host coconuts	Bautista, Anita	UPD	molecular biologists, insect pest management operators, coconut industry, coconut farmers	RF	July 1, 2015	June 30, 2017	2,495,000.00		

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Fabrication and testing of new advanced nanoceramics synthetic apparatus for energy storage and alternative energy applications	Cervera, Rhinlee Butch	UPD	alternative energy researchers, advanced materials research, engineering students, academe	RF	July 1, 2013	June 30, 2015	2,500,000.00	RB Cervera, Y Oyama, S Miyoshi, I Oikawa, H Takamura and S. Yamaguchi. 2014. Nanograined Sc-doped BaZrO ₃ as a proton conducting solid electrolyte for intermediate temperature solid oxide fuel cells (IT-SOFCs). Solid State Ionics 264, 1-6.	Graduated 9 BS, 4 MS students
									Established and set up the Advanced Ceramics Research Laboratory at the Department of Mining, Metallurgical and Materials Engineering
Synthesis of inhibitors of mycobacterial cell wall galactan biosynthesis	Completo, Gladys Cherisse	UPLB	researchers, students, academe	RF	September 13, 2016	October 13, 2018	2,500,000.00		
Exploring transcriptome dynamics in marine organisms in response to environmental challenges	Conaco, Cecilia	UPD	marine biologists, marine researchers	RF	April 1, 2013	April 30, 2014	2,499,919.00	C Conaco, T Tsoulfas, O Sakarya, A Dolan, J Werren and KS Kosik. 2016. Detection of prokaryotic genes in the <i>Amphimedon queeslandica</i> genome. PLoS ONE 11(3), e0151092. doi:10.1371/journal.pone.0151092.	
								C Guzman and C Conaco. 2016. Comparative transcriptome analysis reveals insights into the streamlined genomes of haplosclerid demosponges. Scientific Reports 6, 18774. doi:10.1038/srep18774.	
Archaeological human remains from Southeast Asia: A taphonomic approach	Crozier, Catherine Rebecca	UPD	archaeologists, students, researchers	RF	August 1, 2014	August 30, 2016	2,500,000.00		

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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	semiconductor industry, advanced materials research, pharmaceuticals, researchers, academe	RF	May 1, 2014	May 30, 2016	2,500,000.00	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.	Graduated 1 MS student
								R Delos Santos, JJ Ibanes, MH Balgos, R Jaculbia, JP Afalla, M Bailon-Somintac, E Estacio, A Salvador, A Somintac, C Que, S Tsuzuki, K Yamamoto and M Tani. 2015. Dynamics of optically-generated carriers in Si(100) and Si (111) substrate-grown GaAs/AlGaAs core-shell nanowires. Nanoscale Research Letters 10:337. Doi:10.1186/s11671-015-1050-9.	
								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.	

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								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.	
Surveillance of tick-borne pathogens through PCR and acaricidal resistance in ticks in CALABARZON	Galay, Remil	UPLB	researchers, students, academe	RF	2016	2018	2,500,000.00		
Establishment of a structured light laboratory within the Photonics Research Laboratory of the National Institute of Physics	Hermosa, Nathaniel	UPD	researchers, students, academe	RF	July 27, 2015	June 26, 2017	2,500,000.00	ND Bareza and N Hermosa. 2016. Subliminal group velocity and dispersion of Laguerre Gauss beams in free space. Scientific Reports 6:26842. Doi:10.1038/srep26842.	Mentoring of 2 graduate students and 2 undergraduate students
								N Hermosa. 2016. Reflection beamshifts of visible light due to graphene. Journal of Optics 18, 025612.	
								N Bareza Jr and N Hermosa. 2015. Propagation dynamics of vortices in helicon-conical optical beams. Optics Communications 356, 236-242.	

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								N Bareza Jr and N Hermosa. 2016. Spatial mode projection technique in extracting nanofeatures. 2015 Conference on Lasers and Electro-Optics Pacific Rim, paper 27P_20.	
Discovery of selective antimicrobial agents and probiotic interventions against gut-associated diseases	Ibana, Joyce	UPD	health/medical practitioners, researchers, academe	RF	February 1, 2015	February 29, 2017	2,500,000.00		
Organic components of submarine groundwater discharge in Lingayen Gulf	Jaraula, Caroline Marie	UPD	researchers, students, academe, LGUs, community	RF	September 13, 2016	October 12, 2018	2,500,000.00		
Development of a convertible in transmission-reflection mode femtosecond second harmonic generation microscope/spectroscope (TR-SHGM/TR-SHGS) for surface studies	Martinez, Imee Su	UPD	researchers, students, academe	RF	April 1, 2013	April 30, 2015	2,500,000.00		
Molecular biology of porcine rotaviruses and drivers of infection: Empowering the animal health system in local backyard farm	Murao, Lyre Annie	UPMin	researchers, students, academe	RF	April 29, 2016	April 28, 2018	2,500,000.00		
In-depth systematic study of fermented foods in the Philippines	Navarro, Richard	UPLB	food technologists/ researchers, academe, food manufacturing industry	RF	September 13, 2016	October 13, 2018	2,500,000.00		

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Microbiological characterization and pathogen detection in wastewater effluents of seafood canning industries in the Philippines	Nuñal, Sharon	UPV	food technologists, seafood canning industry, researchers	RF	September 14, 2016	October 14, 2018	2,500,000.00		
Spaces in transition: Mapping Manila's peri-urban fringe	Ortega, Arnisson Andre	UPD	researchers, academe, urban planners	RF	April 1, 2013	April 30, 2015	2,449,000.00	AAC Ortega.2016. Manila's metropolitan landscape of gentrification: Global urban development, accumulation by dispossession and neoliberal warfare against informality. Geoforum 70, 35-50.	
								AA Ortega, JMAE Acielo and MCH Hermida. 2015. Mega-regions in the Philippines: Accounting for special economic zones and global-local dynamics. Cities 47, 130-139.	
								AAC Ortega. 2014. Mapping Manila's mega-urban region: A spatio-demographic accounting using small-area census data. Asian Population Studies 10, 208-235. Doi:10.1080/17441730.2014.902163.	

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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	alternative energy research, advanced materials research, students, academe	RF	August 10, 2015	July 9, 2017	2,484,172.00	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.	
A cross-country research on natural disaster and risk management	Pajaron, Marjorie	UPD	risk and disaster management, disaster mitigation programs, local household, policy-makers	RF	September 14, 2016	October 14, 2017	2,492,000.00		
Quantum entanglement in low-dimensional systems: quantum spin chains and continuum systems	Paraan, Francis Norman	UPD	researchers, academe	RF	April 1, 2013	May 31, 2015	1,914,000.00	FA Bayocboc Jr and FNC Paraan. 2015. Exact work statistics of quantum quenches in the anisotropic XY model. Physical Review E 92, 032142. Doi:10.1103/PhysRevE.92.032142.	Graduated 3 BS students, 2 MS students
								XM Puspup, KH Villegas and FNC Paraan. 2014. Entanglement spectrum and number fluctuations in the spin-partitioned BCS ground state. Physical Review B 90, 155123. Doi: 10.1103/PhysRevB.90.155123	
Petrology and geochemistry of mantle xenoliths: Implications on the evolution of the mantle wedge beneath the Philippine island arc system	Payot, Betchaida	UPD	geologists, researchers, academe	RF	March 1, 2015	March 31, 2017	2,499,636.00		Mentoring of 4 MS students

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Understanding cell physiology through characterization of the physical properties of cells: an atomic force microscopy perspective	Prieto, Eloise	UPD	pathologists, oncologists, medical reserachers	RF	March 1, 2015	March 31, 2017	2,500,000.00		
Coping strategies to natural disasters: Micro-meso-macro interactions and consequences	Ravago, Majah-Leah	UPD	local government units, disaster management agencies, general public	RF	September 15, 2015	September 15, 2017	2,499,894.00		
Discovery of small molecule therapeutics from cyanobacteria	Salvador-Reyes, Lilibeth	UPD	biomedical reseachers, students, academe	RF	August 28, 2015	August 27, 2017	2,500,000.00	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.	
Microbial community shifts and enzymatic degradation rates in sediments influenced by plant-based fish feeds	Santander-de Leon, Sheila	UPV	marine scientists, environmental scientists researchers	RF	February 23, 2016	February 22, 2018	2,500,000.00		
Charged particle system development for modification of polymeric surfaces	Vasquez, Magdaleno Jr.	UPD	materials researchers, students, academe	RF	October 1, 2014	September 30, 2016	2,496,400.00	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.	Established the experimental laboratory facility and the research laboratory group (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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Phytosterols on cellular senescence and senescence-associated inflammation	Velarde, Michael	UPD	researchers, students, academe	RF	July 28, 2016	July 27, 2018	2,500,000.00		
Subsistence strategies and prey spectra of first humans in the Philippines	Volmer, Rebekka	UPD	archaeologists, paleontologists,	RF	November 27, 2015	November 26, 2017	2,499,744.00		
Tapping into novel fungal endophytes for enzymes with biotechnology applications	Yu, Eizadora	UPD	biotechnology and biotechnological applications, researchers, academe	RF	February 1, 2015	February 28, 2017	2,500,000.00		