

**Balik-PhD (BPhD) Recruitment Program**  
(as of 20 October 2017)

Program	CU/College/Unit	Proponent Name	Designation	Start Date			End Date			Project Title	Total Budget	Publications	Mentoring/No. of students graduated			Other Outputs
				Year	Month	Day	Year	Month	Day				BS	MS/MA	PhD	
BPhD	LB CAS Institute of Chemistry	Agula, Mac Joanne Budol	Associate Professor I	2016	September	13	2018	October	13	Catalytic valorization of lignin for the production of aromatic chemicals	2,500,000.00		7		10	KCP-St Annual Convention of the Kapisanang Kimika ng Pilipinas - Southern Tagalog, Inc. and a product demonstration about combined flash chromatography and preparative HPLC given by Dakila Trading Corporation. Attended the 32nd Philippine Chemistry Congress wherein different breakhourghs in science and scientific papers were presented Project Leader represented the Institute of Chemistry for the Youth Science Award Forum Able to prepare a set of bis(amino)-pincer ligands form the condensation of carbonyl compound with amines.
BPhD	Min CSM Dept. of Food Science & Chemistry	Ahiola, Juma Novie Ayap	Associate Professor	2015	May	18	2017	June	17	Utilization of sago flour to improve nutritional profile of selected food products	2,500,000.00		1			A Research Assistant BSFT student attended the learning session titled "START Writing a Great Paper and Getting it Published in a Research Journal" in Cagayan de Oro, which was organized by USAID-STRIVE and Elsevier. Research output was presented on two occasions during the: a. ICAEM 2016 Davao City; b. CSM Colloquium, UP Mindanao, Davao City.
BPhD	Dil CS Natl Inst of Molecular Biology and Biotechnology	Bagamabadi, Pia Dano	Assistant Professor 7	2015	July	13	2017	June	31	Identification and validation of non-coding RNAs induced by thyroid hormone and glucocorticoids in hippocampal neurons	2,500,000.00		2	2		Two (2) undergraduate thesis students have successfully defended their theses and graduated magna cum laude. Data generated from this project was submitted and accepted for two (2) poster presentations to the Endocrine Society Meeting 2017 in Orlando, Florida. A poster presentation entitled "Identification of a Hormone-responsive enhancer element in the cytochrome b561 gene in mouse hippocampal neurons" was presented by the project RA on April 2 under Gene Regulation and Development research category (Shortlisted as one of the five posters in the Presidential Poster Competition). The funding received from the Balik PhD grant has successfully allowed the purchase of equipment and next generation transcriptome analysis to generate a start-up lab. All of the equipment has been purchased following delivery and set-up of the biosafety cabinet. RNA-sequencing was finished
BPhD	Dil CS Natl Inst of Molecular Biology and Biotechnology	Bautista, Anita Mascareñas	Assistant Professor 7	2015	July	1	2017	June	30	Transcriptome-based genetic resources for an armoured scale insect species, <i>Aspidiotus rigidus</i> and its susceptible and tolerant host coconut, <i>Cocos nucifera</i> .	2,495,000.00					Successful validation of sequences for an enzyme (Cytochrome P450s) and molecular markers (SSRs) mined from the <i>Aspidiotus transcriptome</i> . Transcriptome sequencing of <i>Aspidiotus destructor</i> was presented and won as best poster in the Philippine Association of Entomologists Scientific Session of the 49th Pest Management Science Council of the Philippines Conference and Annual Scientific meeting held last May 10-12, 2017.
BPhD	Dil COE Dept of Mining, Metallurgical, and Materials Engg	Cervera, Rinlee Butch M.	Assistant Professor 5	2013	July	1	2015	June	30	Fabrication and testing of new advanced nanoceramics synthetic apparatus for energy storage and alternative energy applications	2,500,000.00	R.B. Cervera, Y. Oyama, S. Miyoshi, I. Oikawa, H. Takamura, S. Yamaguchi. 2014. Nanograined Sc-doped BaZrO <sub>3</sub> as a proton conducting solid electrolyte for intermediate temperature solid oxide fuel cells (IT-SOFCs). Solid State Ionics 264, 1-6. Included in the Top 25 Hottest Articles in Solid State Ionics Journal, July-September 2014. E. Mirasol, R.B. Cervera. 2015. Production of amorphous and crystalline silica from Philippine waste rice hull. Advanced Materials Research 1098, 80-85. J. Balanay, R.B. Cervera. 2015. Preparation of Yttrium-doped barium zirconate/barium cerate (BZY20/BCY20) core-shell structured proton-conducting solid electrolyte via Modified Pechini Method. Advanced Materials Research Journal 1098, 38-42. G. Nunez, J. Balanay, RB Cervera. 2015. Preparation of Y-doped BaZrO <sub>3</sub> proton conducting solid electrolyte via modified low temperature Pechini method. Advanced Materials Research 1098, 86-91. CP Garrido, RB Cervera. 2015. Synthesis of amorphous Fe-doped SiO <sub>2</sub> anode nanomaterial via sol-gel method. Advanced Materials Research 1119, 38-42. RB Cervera, S Yamaguchi. 2015. On the formation of nanograined LiCo <sub>2</sub> O <sub>3</sub> (OH) spinel-type material synthesized via modified low-temperature sol-gel approach. Key Engineering Materials V, Advanced Materials Research 1119, 106-111. RI Gimpaya, RB Cervera. 2016. Solid-state synthesis and characterization of Li <sub>7</sub> -3xGa <sub>2</sub> La <sub>3</sub> Zr <sub>2</sub> O <sub>12</sub> solid electrolyte for Li-ion battery application. Key Engineering Materials Journal 705, 145-149. RB Cervera, ES Mirasol. 2016. Preparation of amorphous nanosilica from Philippine waste rice hull via acid precipitation method. Materials Science Forum 864, 112-116.	9	12	Synthesis and Characterization of Fe-doped SiO <sub>2</sub> Anode Nanomaterial for Lithium Batteries (IMEP2014, Richmond Hotel, Manila) Facile Synthesis of Hydroxyapatite via Modified Sol-gel Method (IMEP2014, Richmond Hotel, Manila) Production of Amorphous and Crystalline Silica from Philippine Waste Rice Hull (IMEP2014, Richmond Hotel, Manila) -Best Poster Award Low temperature synthesis of Yttrium doped BaZrO <sub>3</sub> proton-conducting solid electrolyte (ERDT2014 Conference, SMX, Manila) Yttrium-Doped Barium Zirconate/Barium Cerate Core-Shell Nanostructure as Solid Electrolyte for IT-SOFCs, Materials Science and Engineering Congress (MSE 2014), September 23 -25, 2014, Darmstadt, Germany Bulk-nanograined Fe-doped SiO <sub>2</sub> as Anode Material for Lithium-ion Batteries (MS&T2014, USA) Synthesis of Yttrium-doped Barium Zirconate/Barium Cerate (BZY20/BCY20) Core-Shell structured proton conducting solid electrolyte via modified Pechini method (ICMMR2014 Bangkok, Thailand) Preparation of Y-doped BaZrO <sub>3</sub> Proton Conducting Solid Electrolyte via Modified low temperature Pechini Method (ICMMR2014, Bangkok, Thailand) Production of Amorphous and Crystalline Silica from Philippine Waste Rice Hull (ICMMR2014, Bangkok, Thailand) Low Temperature Synthesis of Y-doped BaZrO <sub>3</sub> Proton-conducting Solid Electrolyte for IT-Solid Oxide Fuel Cells (IMEP2014, Richmond Hotel, Manila) Nanograined LiCo <sub>2</sub> O <sub>3</sub> (OH) Spinel-type Material Synthesized via Modified Lowtemperature Sol-gel Approach (RCME2014, Kuala Lumpur, Malaysia) Synthesis of Amorphous Fe-doped SiO <sub>2</sub> Anode Nanomaterial via Sol-gel Method (ICKEM 2015, Singapore) On the formation of nanograined LiCo <sub>2</sub> O <sub>3</sub> (OH) Spinel-type Material Synthesized via Modified Low-temperature Sol-gel Approach (ICKEM 2015, Singapore)	
BPhD	Dil CS Institute of Chemistry	Completo, Gladys Cherisse Jaucian	Professor	2016	September	13	2018	October	18	Synthesis of Inhibitors of Mycobacterial Cell Wall Galactan Biosynthesis	2,484,999.60					
BPhD	Dil CS MSI	Conaco, Cecilia Gastardo	Assistant Professor	2013	April	1	2014	April	30	Exploring transcriptome dynamics in marine organisms in response to environmental challenges	2,500,000.00	C Conaco, P Tsoulfas, O Sakarya, A Dolan, J Werren, KS Kosik. 2016. Detection of prokaryotic genes in the Amphimedon queenslandica genome. PLoS ONE, 11:e0151092. C Guzman, C Conaco. 2016. Comparative transcriptome analysis reveals insights into the stream-lined genomes of haploclerid demosponges. Scientific Reports 6, 18774. C Guzman, C Cecilia. 2016. Gene expression dynamics accompanying the sponge thermal stress response. PLoS ONE 11(10), e0165368. doi:10.1371/journal.pone.0165368.				Exploring Dynamic Gene Regulation in the Sponge. Presented at the 3rd Annual World Congress of Marine Biotechnology in Hangzhou, China (2013) Exploring the Molecular Response to thermal stress in two haploclerid sponges. Presented at 12th National Symposium on Marine Science of the Philippine Association for Marine Science in Tacloban, Leyte (2013) De novo assembly and characterization of the transcriptome of the two thermally stressed marine sponges. Presented at the IOC/WESTPAC 9th International Scientific Symposium in Nha Trang, Vietnam (2014). Evolutionary relationships of Hsp70 genes in marine sponges and their differential expression during thermal stress. Presented at the IOC/WESTPAC 9th International Scientific Symposium in Nha Trang, Vietnam (2014).

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BPhD	Dil ASP	Crozier, Catherine Rebecca C.	Assistant Professor	2014	August	1	2016	August	30	2,500,000.00	Archeological human remains from Island Southeast Asia: a taphonomic approach		1		<p>The project was able to travel to Barangay Kawit, Medellin in the North of Cebu. This is further supported by a MOA between ASP and USC.</p> <p>Dr. Eileen Murphy of Queen's University Belfast delivered lectures and a workshop on non-adult human remains. This was attended by ASP students and visiting students from Australia National University. Dr. Murphy's involvement in our project is of further success because we are now in discussions between our two departments to develop a Memorandum of Understanding, which will lead to further collaborations and possible opportunities for our students beyond the scope of this initial project.</p> <p>One of the Project Research Assistants successfully defended her Master's Thesis proposal, entitled 'A Study of the Taphonomy of Non-Adult Human Remains from Ille Cave and Rockshelter, Palawan, Philippines'.</p> <p>Hosted an international conference from January 8-9, 2016. Over 60 delegates were in attendance coming from all over SE Asia and nearby regions. It was the first time a conference dedicated to human osteoarchaeology has been hosted in the Philippines.</p> <p>Two papers generated by this project were presented last January at the international conference held at ASP, "For the Love of Death: Human Osteoarchaeology in Southeast Asia and the Pacific."</p>	
BPhD	Man College of Public Health Dept of Health Promotion and Educ	Del Castillo, Ronald Tolentino	Associate Professor	2017	March	16	2019	April	15	2,490,257.60	Prevalence of mental health problems among Filipino university students: Multi-site, mixed-method research					
BPhD	Dil CS Natl Inst of Physics	Estacio, Elmer Surat	Associate Professor 2	2014	May	1	2016	May	1	2,500,000.00	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	<p>MH Balgos, JP Afalla, S Vizcarra D Lumantas, E Estacio, A Salvador and A Somintac. 2015. Temperature behavior of unstrained (GaAs/AlGaAs) and strained (InGaAs/AlGaAs) quantum well bandgaps. Optical and Quantum Electronics 47, 3053-3063.</p> <p>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.</p> <p>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 pyramidal quantum dots via terahertz time-domain spectroscopy. Optics Express 23, 14532-14540. Doi:10.1364/OE.23014532.</p> <p>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 11th Conference on Lasers and Electro-Optics Pacific Rim, CLEO-PR 2015, Article number 7376387.</p>	10	2	<p>The two studies presented in international conferences were published in SCOPUS-indexed journals.</p> <p>Three students whose theses/dissertation topics were partially derived from work covered by this project successfully defended their theses last December 2015.</p> <p>Prototype terahertz photoconductive antenna detector based on a low-temperature-grown gallium arsenide substrate, in proceedings to the 33rd Samahang Pisika ng Pilipinas Conference, 2015.</p> <p>Enhanced terahertz emission of semi-insulating gallium arsenide with metal grating structures, in proceedings to the 33rd Samahang Pisika ng Pilipinas Conference, 2015.</p> <p>Temperature-dependent photoluminescence studies of MBE-grown InAs/GaAs quantum dots, in proceedings to the 33rd Samahang Pisika ng Pilipinas Conference, 2015.</p> <p>Externally applied magnetic field-effects on the terahertz emission from p-type and n-type InAs wafers, in proceedings to the 33rd Samahang Pisika ng Pilipinas Conference, 2015.</p> <p>Investigation of terahertz mechanism in GaAs-on-Si(100), in proceedings to the 33rd Samahang Pisika ng Pilipinas Conference, 2015.</p> <p>Enhanced terahertz emission from Si-GaAs with a sub-wavelength 1D metal array. Conference on Lasers and Electro-Optics/Pacific Rim, Optical Society of America, 2015. 10.1109/CLEO-PR.2015.7376387</p> <p>Increased terahertz emission from Si-GaAs deposited with sub-wavelength spacing metal line array. 2015 40th International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz). IEEE. 2015. 10.1109/IRMMW-THz.2015.7327918</p> <p>Dynamics of Optically-Generated Carriers in Si (100) and Si (111) Substrate-Grown GaAs/AlGaAs Core-Shell Nanowires. Nanoscale research letters 10:1 (2015): 1. 10.1186/s11671-015-1050-9</p> <p>Confined photocarrier transport in InAs pyramidal quantum dots via terahertz time-domain spectroscopy. Optics Express 23.11 (2015): 14532-14540.10.1364/OE.23.014532</p>	
BphD	Dil CS NIGS	Gabo-Ratio, Jillian Aira Sibal	Associate Professor	2017	January	16	2019	February	15	2,489,772.00	Host rock control on epithermal gold mineralization: clues from the Sangilo epithermal vein system and vicinity, Baguio Mineral District, Philippines		1		<p>Research collaboration with the Department of Earth Resources Engineering, Kyushu University in Fukuoka, Japan.</p> <p>JAS Gabo-Ration, P Aguilera, MAK Yonezu, T Tindell, ES Andal. 2017. Geology and mineralization in the Sangilo epithermal gold deposit, Baguio Mineral District, Philippines. Presented at the 2017 Goldschmidt Conference, Paris, France.</p>	
BPhD	LB College of Veterinary Medicine Department of Veterinary Parasitological Science	Galay, Remil Linggaong	Assistant Professor 5	2016	August	15	2018	August	15	2,500,000.00	Surveillance of tick-borne pathogens through PCR and acaricidal resistance in ticks in CALABARZON		13		<p>The project leader and project research associates' research team have attended workshops and seminars related to the project such as the "Installation of T-optical RT-PCR Thermocycler" last February 7, 2017 at the VMBL, CVM and "Animal Welfare Act and DA-AO 40" held last March 21, 2017 at the Veterinary Teaching Hospital, Maahas Station, UPLB.</p> <p>"Developments in Veterinary Diagnostics Laboratories" held last May 24, 2017 at SEARCA, UPLB, and lastly, "Demonstration of the Pocket Expression System" by the Biokins, Philippines held last May 30, 2017 at the Lecture Rm. 3, IAS Communal Bldg., UPLB and VMBL, CVM.</p> <p>Last April 10, 2017, Dr. Tetsuya Tanaka of the Laboratory of Infectious Diseases, Kagoshima University Japan visited the College of Veterinary Medicine, UPLB and delivered a special lecture on the "Studies of Ticks and Tick-borne Diseases", organized by the project leader.</p> <p>The first batch of undergraduate students, Bea Ambita-Salem, Larry Xerxes Capuno Jr., Dawn Maureen Chu, Sidney Lyndon Dolores, Carina Llaneta, Anna Angelica Manalo, and Maria Karla Faye Monreal, who worked on detection of tick-borne pathogens in large ruminants and graduated last June 24, 2017.</p> <p>Two (2) of the students received an award for their undergraduate thesis namely, Larry Xerxes Capuno who got the "Best Undergraduate Thesis Award in Ruminants", and Dawn Maureen Chu who got the "Best Undergraduate Thesis Award in Public Health".</p>	
BPhD	Dil CS Natl Inst of Physics	Hermosa, Nathaniel II Placido	Associate Professor 1	2015	July	27	2017	June	26	2,500,000.00	Establishment of a Structured Light Laboratory within the Photonics Research Laboratory of the National Institute of Physics	<p>N Barez Jr., N Hermosa. 2015. Propagation dynamics of vortices in helicon-conical optical beams. Optics Communications 356, 236.</p> <p>ND Barez Jr., N Hermosa. 2016. Sublaminar group velocity and dispersion of Laguerre Gauss beams in free space. Scientific Reports 6, 26842.</p> <p>F Steinlechner, N Hermosa, V Pruneri, JP Torres. 2016. Frequency conversion of structured light. Scientific Reports 6, 21390.</p>	1		<p>Attended the International Conference on Applied Optics and Photonics, Hovver, Germany, with two (2) contributions 2.1. Beam deflection sensitivity of quadrant detector using Bessel Beams (om) 2.2. Limits of Brewster Imaging (poster).</p> <p>Two of research were also presented in the International Conference on Applied Optics and Photonics held in Hovver, Germany. These are titled, "Limits of Brewster Imaging" and "Beam deflection sensitivity of quadrant detector using Bessel beam." The first research is a poster presentation while the second is an oral presentation. Showed a generalized analytical equation for different thin film and substrate index of refraction in the first presentation. This is important for applications in thin film metrology.</p> <p>Second conference presentation is about using a Bessel beam, a structured light to increase the sensitivity of a quadrant detector. Quadrant detectors are used in a wide range of applications from Atomic Force microscopy to beam alignment in industry.</p>	

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				BPhD	Dil CS Institute of Biology	Ibana, Joyce Altamarino	Associate Professor 3	2015	February				1	2016	February		29
BPhD	Dil CS MSI	Jaraula, Caroline Marie B.	Assistant Professor	2016	September	13	2018	October	13	Organic Components of Submarine Groundwater Discharge in Lingayen Gulf	2,499,108.00		2			Organized SGD Workshop regarding the use of Durridge RAD7 for Radon-222 monitoring  Hosted On-the-job-trainees from Adamson University  Workshop on "Gadgets we can build: water level meter" with Dr. John Burtkenly Ong	
BPhD	Vis CS	Malay, Maria Celia Defrance	Associate Professor	2017	March	1	2019	March	31	Marine biodiversity of Taklong Island: Integrating biodiversity knowledge at the molecular, organismal and bioinformatic levels	2,500,000.00			6		The project leader presented the research proposal of the the TINMR Protected Area Management Board (PAMB) last February 2017, and also worked to coordinate with various agencies that need to give approval of the research plans.	
BPhD	Dil CS Institute of Chemistry	Martinez, Inee Su	Associate Professor	2013	April	1	2015	April	30	Development of a Convertible in Transmission-Reflection Mode Femtosecond Second Harmonic Generation Microscope/Spectroscopy (TR-SHG/TR-SHGS) for Surface Studies	2,500,000.00		1			Poster presentation: "Task-Specific FAP Ionic Liquids for Carbon Capture", 2nd International Conference on the Science and Engineering of Materials, Kuala Lumpur, Malaysia, November 16-18, 2015 (Best Oral Presentation Award)  Poster Presentation: "Synthesis and Characterization of FAP Ionic Liquids for Carbon Capture", 4th Material of Value and Essence Symposium, UP Diliman, July 29-30, 2015  Oral Presentation: "Demonstration of Second Harmonic Generation Microscopy", 33rd Physics Congress of the Samahang Pisika ng Pilipinas, University of Northern Philippines, Vigan City, 3-6 June 2015  Poster Presentation: "Surface Tension Measurement of Task-Specific Ionic Liquids for Carbon Capture", 30th PCC Davao, April 14-20, 2015  Oral Presentation: "Surface Studies of Task-specific Ionic Liquids for Carbon Capture Using Sum Frequency Generation Spectroscopy", 8th Asian Conference on Ultrafast Phenomena, Kobe, Japan, January 20-22, 2014  Oral Presentation: "Chemistry in Action: A look at the Current Research Trends in the Institute of Chemistry, UP Diliman", 2013 CNU International Symposium Series on Natural Sciences, Daejeon, Korea, May 22-24, 2013  Tiongson, J.K., Bruzon, D. A., Berenguel M., Tapang, G., Martinez, I. S., Functionalized Imidazolium-based FAP Ionic Liquids: Synthesis and Properties, Chemical and Engineering data  Bruzon, D. A., Tiongson J. K., Tapang, G., Martinez, I. S., Catalytic CO2 Reduction in Cation and Anion-Functionalized Ionic Liquids, Journal of Electroanalytical Chemistry  Martinez, I. S., A Closer Look at Interface Using Second-Harmonic Generation Spectroscopy, Journal of Spectroscopy  Ugalino, R., Martinez, I. S., Phenomenological Treatment of SHG Using Counter-propagating Geometry, Journal of Molecular Spectroscopy  Martinez, I. S., Buensuceso, C.E., Orden, A. L. K., Baldelli, s., Probing the Thermal Stability of [HMIM][PF6] IL on Hydrophobic Quartz Using Sum-Frequency Generation Spectroscopy, Journal of Molecular Liquids	
BPhD	Dil COE	Mercado, Candy	Associate Professor	2016	December	1	2018	January	9	Materials for Solar Fuels	2,500,000.00			2		A graduate researcher has been identified for this project and he will be directly working in the COMSOL simulations.	
BPhD	Min CSM Department of Biological Science and Environmental Studies	Munao, Lyre Annic Espada	Associate Professor	2016	April	28	2018	April	28	Molecular Biology of Porcine Rotaviruses and Drivers of Infection: Empowering the Animal Health System in Local Backyard farm	2,500,000.00		19	1		Hands-on training on statistical analysis, 6 and 24 April 2017. Hands-on training on molecular phylogenetics, 25 and 27 April 2017 (This was attended by 19 undergrad students, five faculty, one RA and the Project Leader)	
BPhD	LB CA Inst of Food Science and Technology	Navarro, Richard Ragudo	Associate Professor	2016	September	14	2018	October	14	In-depth systematic study of fermented foods in the Philippines	2,500,000.00		1	1		Successful collection of the following samples for the isolation of LAB and AAB from different provinces in Central and Northern Luzon.	
BPhD	Vis College of Fisheries and Ocean Sciences Institute of Fish Processing Technology	Nuñal, Sharon Nonato	Associate Professor	2016	September	14	2018	October	14	Detection of foodborne pathogens along the supply chain of fresh oysters and mussels and its culture environment	2,500,000.00		3	1		The project currently has one full-time research assistant for Year I. The three undergraduate students (AY 2016-2017) supported by the project have already finished their individual studies with hard-bound thesis	
BPhD	Vis CAS Department of Chemistry	Ortillo, Danilo Octaviano	Associate Professor	2017	August	2	2019	August	1	Investigation of the Redox Potentials of Fe-Humic Acid Complexes as a Potential Additive to Increase Bio availability of Iron in Biofloc Systems	2,500,000.00						

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BphD	Dil CSSP Population Institute	Ortega, Amisson Andre C.	Assistant Professor	2013	April	1	2015	July	30	31	Spaces in Transition: Mapping Manila's Peri-Urban Fringe	2,500,000.00	AA Ortega, JM Acielo, MC Hermida. 2015. Mega-regions in the Philippines: Accounting for special economic zones and global-local dynamics. Cities 48, 130.		2		2014 Ugaynan Pang-Agham Tao Conference and the 2015 Philippine Population Association Conference.	
													AAC Ortega. 2016. Manila's metropolitan landscape of gentrification: Global urban development, accumulation by dispossession & neoliberal warfare against informality. Geoforum 70, 35.				Ethnographies, an interactive map of the peri-urban fringe and information about the project were exhibited at the Vargas Museum on March 13, 2015 as part of the "Oikos (Ecology and Economy) Art Exhibit".	
																	The organizers of the same event also broadcasted the interviews of peri-urban residents and streamed a live and recorded interview with the central team on Radio Itim, an online radio platform.	
																	On June 27, 2015, the project was featured on the Philippine Daily Inquirer in an article entitled, "Peri-urban migration results in various forms of spatial mismatch". The project is currently featured on the Relational Poverty Network website and the UP Population Institute website.	
BphD	LB Institute of Mathematical Sciences and Physics	Padama, Allan Abraham B.	Assistant Professor	2015	August	10	2017	July	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	2,484,172.00	AAB Padama, H Nakanishi, H Kasai. 2015. Quantum states of hydrogen atom on Pd(1 1 0) surface. Applied Surface Science 359, 687-691	3	4		Kick-off meeting was held in Osaka University.	
																	Research collaboration with other research groups was established.	
																	The results of the project are presented in national and international conferences.	
																	Three undergraduate students under the supervision of the principal investigator of this project successfully defended their undergraduate thesis. Their works and the results of this project are presented at the 35 th Samahang Pisika ng Pilipinas Physics Conference held in Bayfront Hotel Cebu, Cebu City, on 7-10 June 2017.	
																	Peer Reviewed Proceeding Articles	
																	INTERACTION OF CO, CO <sub>2</sub> , COH, AND HCO ON METAL SURFACES	
																	1. Cristobal, A.P.S. and Padama, A.A.B. (2017) Influence of Pd on the adsorption of CO, COH, and HCO on Cu(111) surface. Proceedings of the 35th Samahang Pisika ng Pilipinas Physics Conference, Samahang Pisika ng Pilipinas.	
																	2. Villaos, R.A.B., Albia, J.R., and Padama, A.A.B. (2017) Adsorption of CO on CuPd	
																	Cristobal, A.P.S., Padama, A.A.B. (2017). Adsorption of CO, COH and HCO on CuPd Surfaces: A DFT study. Presented at the 8th Jagna International Workshop: Structure, Function and Dynamics from nm to Gm.	
																	Padama, A.A.B., Albuo, M.A., Villaos, R.A.B., Albia, J.R., Diño, W.A., Nakanishi, H., Kasai, H. (2016). Interaction of CO molecule with metal surfaces. Presented at the 8th Asian Computational Materials Design® Workshop in De La Salle University - Science and Technology Complex, Canlabang, Laguna.	
																	Villaos, R.A.B., Padama, A.A.B., Albia, J.R. (2016). Adsorption of CO on CuPd surface: A DFT – based study. Presented at the 2nd Workshop on Theories in Quantum Phenomena and Condensed Matter Physics in University of the Philippines Los Baños, Los Baños, Laguna.	
																	Padama, A.A.B., Villaos, R.A.B., Albia, J.R., Diño, W.A., Nakanishi, H., Kasai, H. (2016) Converting agricultural waste to fuel: An atomic scale perspective (The interaction of hydrogen atom and carbon monoxide molecule on copper-palladium surface). Presented at the UP Knowledge Festival: "Ukay at Puso para sa Bayan" in Tagaytay City.	
																	Padama, A.A.B. (2016) Interaction of CO on CuPd Surfaces: A DFT-based Investigation. Presented at the International Workshop on Quantum Engineering Design: Materials Design and Realization in Osaka University, Osaka, Japan.	
																	Villaos, R.A.B., Padama, A.A.B., Albia, J.R. (2016) Atomic scale understanding of interaction of H atom and CO molecule on CuPd Surface: An Application to Biomass-based Renewable Energy. Presented at the International Workshop on Quantum/Materials Science and Design for Innovative Nano- and Green Energy Devices and Life Sciences of the Osaka University, Osaka, Japan.	
																	Padama, A.A.B., Nakanishi, H., Kasai, H. (2015) Hydrogen atom quantum diffusion on Pd(110) surface. Presented at the 17 th Samahang Pisika ng Visayas at Mindanao National Physics Conference (17 th SPVM) 2015 International Meeting for Optical Manipulations in Complex Systems / 2015 International Conference on Applied Materials and Optical Systems of the Samahang Pisika ng Visayas at Mindanao, Cavite State University, Indang, Cavite, Philippines	
																	Cristobal, A.P.S., Padama, A.A.B. (2017). Adsorption of CO, COH and HCO on CuPd Surfaces: A DFT study. Presented at the 8th Jagna International Workshop: Structure, Function and Dynamics from nm to Gm of Central Visayan Institute Foundation, Inc., Jagna, Bohol, Philippines.	
																	Villaos, R.A.B., Padama, A.A.B., Albia, J.R., Diño, W.A., Nakanishi, H., Kasai, H. (2017). CO-induced Pd segregation and the effect of subsurface Pd on CO adsorption on CuPd surfaces. Presented at the Annual Meeting of the Physical Society of the Republic of China (Taiwan) of the Physical Society of the Republic of China (Taiwan), Tamkang University (TKU), Tamsui, Taiwan.	
																	Padama, A.A.B., Cristobal, A.P.S., Ocon, J.D., Diño, W.A., Nakanishi, H., Kasai, H. (2017). Factors affecting and processes related to adsorption of CO, COH and HCO on CuPd surfaces: A density functional theory investigation. Presented at the 72nd Annual Meeting of the Physical Society of Japan of the Physical Society of Japan, Osaka University, Osaka, Japan.	
BPhD	Dil School of Economics	Pajaron, Marjorie C.	Assistant Professor	2016	September	13	2018	October	13		A cross-country research on natural disaster and risk management	2,492,000.00	MC Pajaron. 2016. The role of remittances as a risk-coping mechanism: Evidence from agricultural households in rural Philippines. Asian and Pacific Migration Journal 26, 3-30. doi:10.1177/0117196816680625.		4		Traveled and met with experts in the field of natural disaster, risk-coping, poverty, and applied economics (including previous colleagues and mentor at Stanford University).	
																	1. Presentation in London	
																	2. Presentation in Hongkong	
																	3. Presentation in Peking University	
																	4. Meeting and conference at Hitotsubashi University, Tokyo, Japan	
BPhD	Dil CS Nat Institute of Physics	Paran, Francis Norman Claridades	Assistant Professor	2013	April	1	2015	May	31		Quantum entanglement in low-dimensional systems: quantum spin chains and continuum systems	1,914,000.00	XM Puspas, KH Villegas, FNC Paran. 2014. Entanglement spectrum and number fluctuations in the spin-partitioned BCS ground state. Physical Review B 90, 55123.	7	5		Two (2) MS Graduates presented the result of their research quantum quenches at Physics conference in Vigan, Tokyo, and Stellenbosch.	
																	The research of the three (3) BS Graduates has been presented in National Physics conferences held in Cebu, Diliman, and Vigan.	
																	The research of One (1) BS Graduate on quantum entanglement in superconductors has been cited in the 2015 BPI-DOST Science Awards as one of the eight (8) top projects in the National Finals. His work has been published in Physical Review B.	
																	The research of One (1) BS Graduate on the analogies between concepts in statistical mechanics and quantum information theory has been published in the European Journal of Physics.	
																	Plenary talks: Semiconductor laser based Doppler lidar for wind energy applications; Search for drifting constants and fifth forces from precision measurements on molecules; Entangled statistical mechanics and Parallel computing; Measuring the physics that drives DNA-protein interactions; Pinpoint X-ray cancer therapy system and DNA damage/repair analysis system; Seeing the invisible with gravitational lensing; Super-Bodies Impacts in Jupiter	

Program	CU/College/Unit	Proponent Name	Designation	Start Date			End Date			Project Title	Total Budget	Publications	Mentoring/No. of students graduated			Other Outputs
				Year	Month	Day	Year	Month	Day				BS	MS/MA	PhD	
															<p>Oral Presentations: Photonics, Terahertz, and Nanotechnology</p> <p>Tachib, R. C., Parana, F. N.C., Parallel Speed-up and Efficiency in Single Loop Sums and Matrix Multiplication</p> <p>Saio, J., Banzon, R., Villagonzalo, C., Characteristics of non-spanning clusters in a percolating two-dimensional square lattice.</p> <p>Seroje, K. R., Parana, F., N.C., Entanglement spectrum and entropy of two-mode squeezed vacuum states.</p> <p>Puspous, X. M., Parana, F. N.C., Entanglement entropy of impenetrable bosons in 1D: Effects of block length and boundaries</p> <p>Tabernilla, R.C.M., Sanchez, J.K. R., Dizon, J.G. A., Parana, F. N.C., Speed-up and Efficiency of Parallelized Monte Carlo Integration on Homogeneous and Heterogeneous Clusters</p> <p>Tachib, R. C., Dizon, J.G. ALateral Motion of a Suspended Spherical Particle between Two Parallel Moving Walls</p> <p>Workshop on theories in quantum phenomena and condensed matter physics, UP Los Baños, April 22, 2015</p>	
BPhD	Dil CS NIGS	Payot, Betchaida D.	Assistant Professor	2015	March	1	2017	September (Extension)	31 30	Petrology and geochemistry of mantle xenoliths: Implications on the evolution of the mantle wedge beneath the Philippine island arc system	2,499,636.00	4	3	<p>Valera, G.T., Payot, B.D., Arai, S., Ishimaru, S., and Takeuchi, M. (2016) Delineating metasomatic processes beneath an active island arc: Insights from the Sabtang xenoliths. Presented at the Hunt for Ore Deposits 2016: Emerging Trends, Grand Regal Hotel, Davao City.</p> <p>Valera, G.T., Payot, B.D., Arai, S., Ishimaru, S., and Takeuchi, M. (2015) Xenoliths from Sabtang Island, Batanes (Philippines): Insights to the crust-mantle composition beneath an active arc. Presented at the 12th Annual Meeting of the Asia Oceania Geoscience Society, Suntec City, Singapore.</p> <p>Valera, G.T., Payot, B.D., Arai, S., Ishimaru, S., and Takeuchi, M. (2015) Petrologic and geochemical characterization of the Sabtang xenoliths. Presented at the Asia Africa Mineral Resources Conference, University of the Philippines Diliman, Quezon City.</p> <p>Gadot, E.G., Morishita, T., Arai, S., Payot, B.D. and Mizukami, T. (2015) Petrology of dunitic xenoliths from Mt. Pinatubo, Philippines. Presented at the Gecon 2015: Opportunities in Challenging Times, Intercontinental Hotel, Makati City.</p> <p>The Nanotechnology Laboratory has two research assistants capable of performing AFM imaging and analysis using the XE-Bio AFM. They were able to provide AFM service through the Multi-Dimensional Imaging Center of the Technology Incubation Core Facility of the College of Science.</p> <p>Project Collaboration: Visiting Researcher, Approval of Hitachi Global Research Fellowship, Kenichi Yoshikawa Lab through the Faculty of Life and Medical Sciences, Doshisha University, Kyoto, Japan.</p> <p>Project Collaboration: Visiting Professor, Talks have been initiated for a collaborative project, Dr. Mel Bacabac of the Physics Department of University of San Carlos, Talamban, Cebu City</p>		
BPhD	Dil CS Natl Inst of Molecular Biology and Biotechnology	Prieto, Eloise Infante	Assistant Professor	2015	March	1	2017	March (Extension)	31 31	Understanding cell physiology through characterization of the physical properties of cells: an atomic force microscopy perspective.	2,500,000.00	4	3	<p>The Nanotechnology Laboratory has two research assistants capable of performing AFM imaging and analysis using the XE-Bio AFM. They were able to provide AFM service through the Multi-Dimensional Imaging Center of the Technology Incubation Core Facility of the College of Science.</p> <p>Project Collaboration: Visiting Researcher, Approval of Hitachi Global Research Fellowship, Kenichi Yoshikawa Lab through the Faculty of Life and Medical Sciences, Doshisha University, Kyoto, Japan.</p> <p>Project Collaboration: Visiting Professor, Talks have been initiated for a collaborative project, Dr. Mel Bacabac of the Physics Department of University of San Carlos, Talamban, Cebu City</p>		
BPhD	Dil School of Economics	Ravago, Majah-Leah Villar	Assistant Professor	2015	September	15	2017	September	14	Coping Strategies to Natural Disasters: Micro-Meso-Macro interactions and consequences	2,499,894.00	2		<p>Developed and programmed the survey software, based on Microsoft Access.</p> <p>As of July 31, fieldwork has been completed in 37 out of 43 provinces, corresponding to 165 interviews.</p>		
BPhD	Dil CS MSI	Salvador-Reyes, Lilibeth Apo	Assistant Professor	2015	August	28	2017	August (Extension)	27 28	Discovery of small molecule therapeutics from cyanobacteria	2,500,000.00		1	<p>LA Salvador-Reyes, J Sneed, VJ Paul, 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.</p> <p>LA Salvador-Reyes, H Luesch. 2015. Biological targets and mechanisms of action of natural products from marine cyanobacteria. Natural Products Reports 32, 478-503.</p> <p>Presentation: J.D. Batacan was accepted for poster presentation on the 32nd Philippine Chemistry Congress.</p>		
BPhD	Vis College of Fisheries and Ocean Sciences Institute of Marine Fisheries and Oceanology	Santander-de Leon, Sheila Salarda	Assistant Professor	2016	February	23	2018	February	22	Microbial community shifts and enzymatic degradation rates in sediments influenced by plant-based fish feeds	2,500,000.00	1	2	<p>Collaboration with the grantee's previous professor in Japan (Dr Hiroto Maeda) in terms of provision of materials, technical advice and future training and some sample analyses in Kagoshima University.</p>		
BPhD	Dil COE Dept of Mining, Metallurgical, and Materials Engg	Vasquez, Magdaleno Jr. R.	Assistant Professor	2014	October	1	2016	September (Extension)	30 31	Development of a Plasma Device and an Ion Source System for the Modification of Surfaces	2,500,000.00	41	16	6	<p>MR Vasquez Jr, M Wada. 2016. Extraction characteristics of a low-energy ion beam system with a remote plasma chamber. Review of Scientific Instruments 87, 02B924.</p> <p>MR Vasquez Jr, CMD Gacogom. 2016. Enhanced Chromium Adsorption Capacity via Plasma Modification of Natural Zeolites, Japanese Journal of Applied Physics 56, 01AF02.</p> <p>MR Vasquez Jr, KLM Taaca. 2017. Fabrication of Ag-exchanged zeolite/chitosan composites and effect of plasma treatment, Microporous and Mesoporous Materials 241, 383-391.</p> <p>The grant was able to restore a dilapidated vacuum thermal evaporator.</p> <p>The laboratory also hosts graduate and undergraduate courses on vacuum technology, thin films, and electronic materials. MSE 214 (Laboratory Module in Vacuum Technologies and Thin Film Deposition) courses were held at PML for the past 2 years. In the laboratory, students can conduct their course-related activities such as running their experiments. To date, around 40 student under the MS MSE program used the facility. Also, undergraduate courses such as MatE 121.1 (Electronic Materials Laboratory) used the facility for instructional laboratory work. Last semester, 38 undergraduate students conducted their experiments in the laboratory.</p> <p>Collaboration with Plasma Science Laboratory of Doshisha University and with Plasma Physics Laboratory of the National Institute of Physics (NIP) is being undertaken. Joint research such as in plasma physics and plasma-material interactions has commenced.</p> <p>exploring Philippine Biodiversity for Anti-senescent Interventions. 2nd Annual Balik Scientist Program (BSP) Convention. "Strengthening Science, Technology and Innovation Capacity for Sustainable Countryside Development". November 18, 2016. Embassy Ballroom, Hotel Jen, Roxas Blvd., Pasay City, Philippines.</p> <p>Manuscripts under review: C. Gacogom and M. Vasquez Jr., Enhanced Chromium Adsorption Capacity via Plasma Modification of Natural Zeolites (submitted to Japanese Journal of Applied Physics).</p> <p>K. Taaca and M. Vasquez Jr., Fabrication of Ag-exchanged zeolite/chitosan composites and effect of plasma treatment (submitted to Microporous Mesoporous Materials).</p> <p>J. Chan, J. Diaz, E. Enriquez, M. Wada, and M. Vasquez Jr., Doping of Spray-pyrolized Graphene Films using Ar/N2 Gas Discharge (submitted to IEEE Proceedings).</p> <p>An experimental system with parts fabricated in Japan was brought and assembled. The laboratory also refurbished and restored a radio-frequency plasma etcher, a vacuum evaporator and several rotary pumps that can be used for different experiments.</p> <p>An approximately 100 m<sup>2</sup> area was renovated to house different plasma equipment.</p>	
BPhD	Dil CS National Institute of Physics	Vega, Michael Francis Ian II G.	Associate Professor	2017	March	6	2019	April	5	Self-force and radiation-reaction in novel settings	2,500,000.00	3	2	<p>The editor for the Taylor and Francis Group has finished reviewing the book chapter they have written. Have recently submitted the revised manuscript and are now waiting for its publication.</p>		

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				Year	Month	Day	Year	Month	Day				BS	MS/MA	PhD	
				BPhD	Dil CS Institute of Biology	Velarde, Michael C.	Associate Professor	2016	July				28	2018	July	
BPhD	Dil ASP	Volmer, Rebekka	Assistant Professor	2015	November	27	2017	November	26	2,499,744.00	R Volmer, C Hertler. 2016. The effect of competition on shared food resources in carnivore guilds. Quaternary International 413 B, 32 - 43. doi:10.1016/j.quaint.2015.11.054.	2			<p>The theoretical research on competition relations was done by the project leader, with consultancy of Dr. Christine Hertler from the Research Senckenberg Institute in Frankfurt Germany.</p> <p>The project leader was invited to present her research entitled "Subsistence Strategies and Prey Spectra of First Humans in the Philippines" and give a lecture during the symposium and international School of Quaternary History in Nanjing, China, held during 22-30th of April 2016.</p> <p>The symposium and course was developed from the European "Erasmus Mundus program Quaternary and Prehistory", and was the first time to be held outside of Europe.</p> <p>First research outputs were presented in 2nd international conference SEAMEO SPAFA. Regional Centre for Archaeology and Fine Arts. Bangkok, Thailand</p> <p>The project leader was the only participant from UP Diliman and presented outputs of the project in frame of the presentation "Did saber-tooth cats become extinct because of early Homo?"</p> <p>First research results are published in an ISI-journal with an impact factor of 2.942</p> <p>The second manuscript is submitted to the ISI-listed journal "Palaeogeography, Palaeoclimatology, Palaeoecology"</p> <p>Accepted Manuscript: Volmer R, Holzchen E, Wurster A, Ferreras RM, Hertler C. Did Panthera pardus (Linnaeus, 1758) become extinct in Sumatra because of competition for prey? Modeling interspecific competition within the Late Pleistocene carnivore guild of the Padang Highlands, Sumatra. Palaeogeography, Palaeoclimatology, Palaeoecology. doi.org/10.1016/j.palaeo.2017.08.032</p>	
BPhD	Dil CS Institute of Chemistry	Yu, Eizadora Torres	Associate Professor	2015	February	1	2017	February	28	2,500,000.00		9	2		<p>Key project personnel (i.e., RA and graduate student) attended a three day workshop (July 25 – 27, 2015) on DNA Barcoding held at the Institute of Biology, UPD.</p>	