

Andrew Q. Nato

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(Website contains links to my profiles in [Google Scholar](#), [Publons](#), [LinkedIn](#), [ORCID](#), [ResearchGate](#), [Loop](#), and [Academia](#))

EDUCATION

- 2011 **Ph.D. in Microbiology and Molecular Genetics (MMG)/Computational Genetics, Rutgers University**
Thesis: Genomic Characterization of Schizophrenia Candidate Gene Regions
Thesis Advisor: Tara C. Matise, Ph.D.
- 2010 **Certificate of Concentration in Bioinformatics, University of Medicine & Dentistry of NJ**
- 2003 **M.S. in Molecular Biology and Biotechnology (MBB), University of the Philippines – Diliman**
Thesis*: Risk Modeling and Screening for *BRCA1* Mutations among Filipino Breast Cancer Patients
Thesis Advisor: Virginia D. Monje, Ph.D.
*Finalist, 2003 Philippine Council for Advanced Science and Technology R&D (PCASTRD) Search for Outstanding Thesis and Dissertation
- 1993 **B.S. in Molecular Biology and Biotechnology (MBB), University of the Philippines – Diliman**
Thesis*: Design of Multivalent Synthetic Peptide Vaccines against Infectious Laryngotracheitis Virus and Equine Herpesviruses 1 and 4
Thesis Advisor: Apolinario D. Nazarea, Ph.D.
*First Place, Poster Presentation (Undergraduate Category), 19th Philippine Society for Biochemistry and Molecular Biology (PSBMB) National Convention

EMPLOYMENT

Current Field: Computational Genetics / Statistical Genetics

- 2013-present **Senior Fellow, Division of Medical Genetics, Dept. of Medicine, University of Washington**
2011-2013 **Postdoctoral Associate, Department of Genetics, Rutgers University (RU)**
2005-2011 **Graduate Assistant, Department of Genetics, Rutgers University**

- 1) **PBAP** (PI: Ellen M. Wijsman). Developed a pipeline that implements QC procedures, file manipulations of large datasets, and certain essential steps prior to family-based analysis.
- 2) **Autism** - Sequencing autism spectrum disorder in extended pedigrees (PI: Ellen M. Wijsman) / Next generation gene discovery in familial autism (PI: Zoran Brkanac). Used SNP and whole exome sequencing (WES) data of large families with autism to identify candidate region(s), genes, and/or variants for IQ discrepancy.
- 3) **Alzheimer's Disease** – Sequence-based discovery of AD risk and protective alleles, family-based study (PI: Ellen M. Wijsman). PBAP was used in file manipulation, marker sub-selection, pedigree checking, and sampling of IVs in ~100 families from the Alzheimer's Disease Sequencing Project (ADSP).
- 4) **Population Architecture using Genomics and Epidemiology** (PI: Tara C. Matise). Developed and performed QC procedures (with collaborators from University of Southern California-Information Science Institute), for combining and analyzing datasets of PAGE cohorts, which included aligning the genotyped variants with the NCBI reference human genome.
- 5) **Genomic Characterization of Schizophrenia Candidate Gene Regions** (PI: Tara C. Matise). Compared and combined results across 47 independent genomewide linkage scans. Developed a novel integrative statistical method to define schizophrenia candidate gene regions. Developed a prioritizer that identified high-ranking schizophrenia candidate genes. Generated an interactome for schizophrenia.
- 6) **Rutgers Combined Linkage-Physical Map of the Human Genome** (PI: Tara C. Matise). Constructed Rutgers Map v.3 containing ~52 million markers. Created the Rutgers Map Interpolator that allows users to obtain interpolated genetic locations up to hundreds of thousands of queried physical positions.
- 7) **Identification of Mouse Developmental QTL Candidate Genes** (PIs: Tara C. Matise and James H. Millonig). Developed a bioinformatics pipeline to identify candidate genes for mouse developmental QTL (devQTL). Identified candidate genes involved in modifying severity of neural tube defects and cataracts.

- 8) **Genetic Association with Longitudinal Phenotypes** (PIs: Tara C. Matise and Derek Gordon). Involved in developing a method for genetic association with longitudinal phenotypes using family-based genotypes from next generation sequencing data.
- 9) **Developing Methods for Analyzing Next Generation Sequencing Data** (PI: Derek Gordon). Designed and performed simulations to test performance (i.e., Type I error rate and power) of the linear trend test allowing for error, applied to NGS (LTT_{ac,NGS}) under different inheritance models and parameter values (coverage, differential error rates, etc.).
- 10) **Genetics of Female Reproductive Aging** (PI: Tara C. Matise). Participated in study design and management, literature search, database design, and data entry.
- 11) **Other responsibilities:** Shared knowledge, skills, and scripts with graduate and undergraduate students, whenever necessary. Course assistant for Dr. Tara C. Matise. Facilitated usage of computational genetics Linux cluster by managing cluster queues, hosts, and users of Sun grid engine.

Previous Fields: Molecular Biology, Radiation Biochemistry, and Health Physics

2002-2004 **Science Research Specialist II, Philippine Nuclear Research Institute (PNRI)**

1994-2002 **Science Research Specialist I, Philippine Nuclear Research Institute**

- 1) **Gene Technologies for Improving Cancer Management, Early Detection, and Prevention** (PI: Custer C. Deocariz; Co-PI: **Alejandro Nato**), 1999-2004. Detected *BRCA1* truncating mutations and/or putative polymorphisms among familial Filipino breast cancer patients by utilizing: (a) radioactive protein truncation test (PTT) utilizing SDS-PAGE visualized by autoradiography (³⁵S) and (b) single-strand conformation polymorphism (SSCP) analysis utilizing polyacrylamide gel electrophoresis visualized by silver staining. Determined *a priori* and *a posteriori* *BRCA1/2* carrier probabilities of breast cancer patients by using BRCAPRO.
- 2) **AFLP-PCR Molecular Screening of ⁶⁰Co γ Radiation-Induced Variants on Selected Ornamental and Foliage Plants (PHI/5/027)** (PI: Teresa Y. Nazarea), 1999-2004. Distinguished ⁶⁰Co γ radiation-induced variants of ornamentals and foliage plants (e.g., orange jasmine (*Murraya exotica*) and lucky bamboo (*Dracaena sanderiana*)) from the wild type by AFLP-PCR mutational screening. Compared AFLP-PCR profiles visualized by silver staining procedure and by autoradiography (³²P). Worked closely with PI in establishing a molecular biology lab infrastructure for PNRI.
- 3) **Environmental Radioactivity Studies** (PI: Teresa Y. Nazarea), 2002-2004. Measured ambient gamma dose rates within PNRI (regularly), in a manufacturing corporation in the National Capital Region, and other areas of interest in the Philippines (e.g., Palawan, Tanay, and Subic) using the Berkeley Nucleonics Surveillance and Measurement Systems (BNC SAM935) coupled with Quantum MCA Gold Software for quantitative radionuclide analysis.
- 4) **Site Survey on Proposed Sites for RN-52** (PI: Teresa Y. Nazarea), 2001-2004. Assessed potential sites for RN-52 by performing environmental and radiological surveillance using BNC SAM935 and Quantum MCA Gold Software.
- 5) **Asia-Pacific Marine Radioactivity Database (ASPAMARD 1 and 2)** (PI: Emerenciana B. Duran), 1999-2002. Created the contour map of marine radioactivity in the whole Asia-Pacific Region using Surfer[®] 7. Member of the team that diligently compiled first two versions of ASPAMARD.
- 6) **Environmental and Radiological Surveillance in Former US Bases: Subic and Clark** (PI: Emerenciana B. Duran), 2000-2001. Measured ambient gamma dose rates in former US bases using a carborne γ -ray spectrometer (Exploranium 650).
- 7) **Marine Radioactivity in South China Sea** (PI: Emerenciana B. Duran), 1999-2001. Sampled sediments using sediment core and grab sampling techniques in Subic Bay, Imuruan Bay (Palawan), and Sulu Sea.
- 8) **Environmental Radioactivity Measurements in the Philippines** (PI: Emerenciana B. Duran), 1995-1998. Regularly measured the ambient γ -radiation dose rate within PNRI, perimeter of PNRI, and 2-5 km radius of PNRI using a high pressure ionization chamber (HPIC) and Exploranium 650. Assisted in preparing mixed radionuclide standards for a high-purity germanium (HPGe) detector.
- 9) **Detection Method for Irradiated Oriental Fruit Fly (*Dacus dorsalis*) Quarantine Purposes** (PI: Teresa Y. Nazarea), 1994-1998. Performed chromophore experiment and developed a tyrosinase assay for pupal homogenate of Oriental fruit fly (*Bactrocera philippinensis* / *Dacus dorsalis*). Isolated protein by elution and lyophilization of SDS-PAGE protein band. Detected trace elements in isolated protein by total x-ray fluorescence (TXRF) spectroscopy.
- 10) **Somatic Mutation in Peripheral Blood Lymphocytes among Metro Manila Residents: Indicator of Exposure to Environmental Pollution** (PI: Teresa Y. Nazarea), 1994-1995. Analyzed HGPRT mutation indices of Valenzuela and Las Piñas residents determined by human peripheral blood lymphocyte isolation, trichloroacetic acid DNA extraction, liquid scintillation counting, and cellular activity calculation.
- 11) **Other projects/experiences:** Determined possible bioindicator of ¹³⁷Cs in Asian green mussels (*Perna viridis*). Studied the effect of different doses of γ -radiation on the proteins of cowpea (*Vigna unguiculata*). Determined radioresistance of *P. aeruginosa* utilizing different doses of γ -rays. Performed an initial study on the utilization of AtB and AtC insect (mosquito) cell lines in the propagation of dengue virus and subsequent detection using RT-PCR and agarose gel electrophoresis. Determined CTT Triplex (CSF1PO, THO1, TPOX) STR loci fingerprint in a Filipino (Bicol) population utilizing PCR and polyacrylamide gel electrophoresis visualized by silver staining.

1993 **University Research Associate I, University of the Philippines (UP) Diliman Extension Program in San Fernando (UPEPSF), Pampanga**

Job description: Performed scientific literature search specifically on synthetic peptide vaccine design and determined putative viral epitopes. Assistant for Dr. Apolinario D. Nazarea, Director, UPEPSF. Attended seminars and workshops.

1990-1993 **Student Assistant, Office of Counseling and Guidance, UP-Diliman**

Job description: Assisted the counselors in evaluating student entries by encoding and tallying students' answers in the computer. Performed calculations based on requests and instructions of the counselors. Responsible for keeping order at the reception area and prepared the students before their appointment with a guidance counselor.

1990 **SWAP Trainee, Benguet Corporation**

Job description: Encoded entries about Benguet Corporation stockholders

JOURNAL EDITORSHIP

2000, 2004 Managing Editor, Philippine Nuclear Journal

1995-1996 Editorial Assistant, *The Nucleus* (official publication of the Radioisotope Society of the Philippines)

AD HOC REVIEWER

Scientific Journals (16) - Reviews (26), Re-reviews (10):

Scientific Journal [Articles]	Reviews	Re-reviews
American Journal of Human Genetics [1]	2015(1)	
Annals of Human Genetics [1]	2015 (1)	2015 (1)
BMC Bioinformatics [7]	2013 (1), 2014 (3), 2015 (3)	2015 (2)
BMC Genetics [1]	2012 (1)	
BMC Proceedings [2]	2013 (2)	
European Journal of Human Genetics [1]	2016 (1)	
Gene [1]	2014 (1)	2015 (1)
Genetics Research [1]	2015 (1)	2016 (1)
Genetics Research International [1]	2014 (1)	
Human Heredity [2]	2014 (2)	2016 (1)
Human Immunology [1]	2015 (1)	2015 (1)
Human Mutation [1]	2017 (1)	2017 (1)
Journal of Assisted Reproduction and Genetics [3]	2015 (1), 2016 (2)	
Journal of Medical Genetics [1]	2015 (1)	2015 (1)
Philippine Nuclear Journal [1]	2013 (1)	
Scientific Reports [1]	2015 (1)	2016 (1)

Conferences:

Philippine Society for Biochemistry and Molecular

Biology (PSBMB) Annual Convention [2] 2009 (2)

TECHNICAL AND ANALYSIS SKILLS

- 1) Linkage analysis (e.g., MORGAN, MERLIN, LINKAGE, PBAP)
- 2) Exome sequencing and annotation (e.g., VCFtools, ANNOVAR, SeattleSeq)
- 3) Imputation (e.g., GIGI, GIGI-Quick, IMPUTE2, BEAGLE, MaCH, minimac)
- 4) Other statistical genetics programs (e.g., SOLAR, PLINK, LTT_ae, CRI-MAP)
- 5) Tertiary data analysis of SNP panels and next generation sequencing data using software enumerated in 1-4
- 6) Pathway analysis (e.g., Ingenuity Pathway Analysis, Reactome)
- 7) Online tools and resources (e.g., NCBI, UCSC, 1000 Genomes, Bgee expression database, Schizophrenia Research Forum (SZGene) database, Alzheimer Research Forum (AlzGene) database, Parkinson's Disease (PDGene) database, WebGestalt, dbGaP, BLAST, LiftOver, ClustalX)
- 8) Led or involved in developing tools and resources (e.g., PBAP, Rutgers Map, Rutgers Map Interpolator, devQTL)
- 9) Linux systems, Perl programming with CGI and HTML, shell scripting (including awk), R, MySQL
- 10) Linux system administration (e.g., utilization of Sun Grid engine and management of cluster queues, hosts, and users), high-performance cluster (HPC) computing

AWARDS, SCHOLARSHIPS, AND DISTINCTIONS

- 2007-2010 **Anne B. and James B. Leathem Fellow**, Division of Life Sciences, Rutgers University, NJ, USA
- 2006 **McCallum Scholar**, Division of Life Sciences, Rutgers University, NJ, USA
- 2004-2005 **Graduate Fellow**, Joint RU-UMDNJ Doctoral Programs in Molecular Biosciences, NJ, USA
- 2004 **Financial Officer / Participant / Organizing Committee Member**, International Atomic Energy Agency (IAEA) / Regional Co-operative Agreement (RCA) Training Course on Application of Nuclear and Isotopic Techniques to Identify the Source and Distribution of Contaminants in Heavily Polluted Coastal Regions, Manila, Philippines
- 2004 **Best Poster**, Chemical, Mathematical, and Physical Division, National Academy of Science and Technology 26th Annual Scientific Meeting
- 2003 **Finalist**, 2003 Philippine Council for Advanced Science and Technology Research and Development (PCASTRD) Search for Outstanding Thesis and Dissertation nationwide, Bicutan, Taguig, Philippines
- 2003 **Philippine Representative and Proxy of the National Project Coordinator**, IAEA/RCA Project Formulation Meeting on Improving Regional Capacity for Assessment, Planning and Responding to Aquatic Environmental Emergencies (ANSTO), Lucas Heights, NSW, Australia
- 2002 **Joint FAO/IAEA Fellow**, Food and Agriculture Organization (FAO)/IAEA Agriculture and Biotechnology Laboratory, Seibersdorf, Austria on Mutant Germplasm Characterization using Molecular Markers
- 2001-2003 **Department of Science and Technology (DOST)-PCASTRD Thesis Grant Recipient**
- 2001-2003 **UP-Office of the Vice-Chancellor for Research and Development (UP-OVCRD) Thesis Grant Recipient**
- 1999 **IAEA Fellow**, Battelle Pacific Northwest National Laboratory (Richland, WA, USA) on Radiation Protection (Dose Assessment): Environmental Risk Assessment and 3D Modeling (Advisor: Yasuo Onishi Ph.D., former Chief Scientist at Battelle PNNL, former committee member of the U.S. National Academy of Sciences, and environmental advisor to the IAEA)
- 1998, 1999 **Nominated** by PNRI (Dr. dela Rosa) for the Philippine Talent Search for Young Scientists Award by DOST-NAST
- 1996 **JICA/JCAC Fellow**, Japan Chemical Analysis Center (Chiba, Japan) on Environmental Radioactivity Analysis and Measurement
- 1995 **First Place, AEW Poster Presentation** by PNRI for the study “Gs-protein: A tyrosinase enzyme from *Bactrocera philippinensis*”
- 1994 **Second Place, AEW Poster Presentation** by PNRI for the study “Detection Method for Irradiated Oriental Fruit Fly (*Dacus dorsalis*) for Quarantine Purposes”
- 1994 **First Place, Poster Presentation (Undergraduate Category)**, 19th National Convention of Philippine Society for Biochemistry and Molecular Biology (PSBMB)
- 1994 **First Place, IAEA/PNRI/PCASTRD-sponsored First National Training Course on Radiation Chemistry** by PNRI
- 1994 **Third Place, 74th Radioisotope Techniques Training Course (RTTC) – Agriculture** by PNRI
- 1993 **Eligibility for Government Service** (Career Service Professional Examination), July 18
- 1992 **College Scholar**, University of the Philippines-Diliman
- 1990 **University Scholar**, University of the Philippines-Diliman
- 1988 **University Scholar**, University of the Philippines-Diliman
- 1988-1993 **DOST-Science Education Institute (DOST-SEI) Scholarship Recipient**
- 1988-1993 **Jaime V. Ongpin Fund Scholarship Recipient**, Benguet Corporation

PUBLICATIONS

Manuscripts Submitted or are in Preparation

1. Khalid Kunji, Ehsan Ullah, **Alejandro Q. Nato, Jr.**, Ellen M. Wijsman, and Mohamad Saad. GIGI-Quick: A fast approach to impute missing genotypes in genome-wide association family data. [submitted; under review]
2. Ehsan Ullah, Khalid Kunji, **Alejandro Q. Nato, Jr.**, Ellen M. Wijsman, and Mohamad Saad. Kstat2: An Efficient EM Algorithm to Estimate Kinship Coefficients in Genetic Data. [submitted; under review]
3. Elizabeth Blue, ..., **Andrew Nato**, *et al.* Genetic variation in genes underlying diverse dementias may explain a small proportion of cases in the Alzheimer's Disease Sequencing Project. [submitted]
4. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Harkirat K. Sohi, Bowen Wang, Hiep D. Nguyen, Raphael A. Bernier, Jeff Munson, Sara Jane Webb, Joseph M. Viskochil, Wendy H. Raskind, Hilary Coon, and Ellen M. Wijsman. Identification of candidate genes for IQ discrepancy in extended families with autism using whole exome sequencing data. [in preparation]
5. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Mohamad Saad, Harkirat K. Sohi, Charles Y.K. Cheung, Andrea R.V.R. Horimoto, Rafael A. Nafikov, Khalid Kunji, Ehsan Ullah, Hiep D. Nguyen, and Ellen M. Wijsman. PBAP v.2: Additional capabilities and tools. [in preparation]
6. **Alejandro Q. Nato, Jr.**, Steven Buyske, and Tara C. Matise. A third generation combined linkage-physical map of the human genome. [in preparation]

Peer-Reviewed Publications

1. D. T. Truong, L. D. Shriberg, S. D. Smith, K. L. Chapman, A. R. Scheer-Cohen, M. M. C. DeMille, A. K. Adams, **A. Q. Nato**, E. M. Wijsman, J. D. Eicher, and J. R. Gruen. 2016. Multipoint genome-wide linkage scan for nonword repetition further supports chromosome 13q as a locus for verbal trait disorders in a multigenerational family. *Human Genetics*. **135**(12):1329-1341. PMCID: PMC5065602.
2. Mohamad Saad, **Alejandro Q. Nato**, Fiona L. Grimson, Steven M. Lewis, Elizabeth M. Blue, Elizabeth A. Thompson, and Ellen M. Wijsman. 2016. Identity-by-descent estimation with population- and pedigree-based imputation in admixed family data. *BMC Proceedings*. **10**(Suppl 7): 295-301. PMCID: PMC5133511.
3. Elizabeth M. Blue, Lisa A. Brown, Matthew P. Conomos, Jennifer Kirk, **Alejandro Q. Nato**, Alice B. Popejoy, Jesse D. Raffa, J. Ranola, Timothy A. Thornton, and Ellen M. Wijsman. 2016. Estimation of relationships between subjects and phenotypes in admixed families. *BMC Proceedings*. **10**(Suppl 7): 357-362. PMCID: PMC5133521.
4. Beate Peter, Ellen M. Wijsman, **Alejandro Q. Nato, Jr.**, UW Center for Mendelian Genomics, Mark M. Matsushita, Kathy L. Chapman, Ian B. Stanaway, John Wolff, Kaori Oda, Virginia B. Gabo, and Wendy H. Raskind. 2016. Genetic candidate variants in two multigenerational families with childhood apraxia of speech. *PLoS One*. **11**(4):e0153864. PMCID: PMC4847873.
5. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Harkirat K. Sohi, Hiep D. Nguyen, Zoran Brkanac, and Ellen M. Wijsman. 2015. PBAP: A pipeline for family-based quality control of pedigree structures and dense genetic marker data. *Bioinformatics*. **31**(23):3790-3798. PMCID: PMC4668752.
6. Nicola H Chapman, **Alejandro Q. Nato, Jr.**, Raphael Bernier, Katy Ankeman, Harkirat K. Sohi, Jeff Munson, Ashok Patowary, Marilyn Archer, Elizabeth M Blue, Sara J Webb, Hilary Coon, Wendy H Raskind, Zoran Brkanac and Ellen M Wijsman. 2015. Whole exome sequencing in extended families with autism spectrum disorder implicates four candidate genes. *Human Genetics*. **134**(10):1055-1068. PMCID: PMC4578871.
7. Bo Li, Paul G. Matteson, Myka F. Ababon, **Alejandro Q. Nato, Jr.**, Yong Lin, Vikas Nanda, Tara C. Matise, and James H. Millonig. 2015. The orphan GPCR, Gpr161, regulates the retinoic acid and canonical Wnt pathways during neurulation. *Developmental Biology*. **402**(1):17-31. PMID: 25753732.
8. Adam E. Locke, Bratali Kahali, Sonja I. Berndt, Anne E. Justice, Tune H. Pers, Felix R. Day, ..., **The PAGE Consortium***, *et al.* 2015. Genetic studies of body mass index yield new insights for obesity biology. *Nature*. **518**(7538):197-206. PMCID: PMC4382211. [***Andrew Nato** listed as a member of The PAGE Consortium]
9. Dmitry Shungin, Thomas W. Winkler, Damien C. Croteau-Chonka, Teresa Ferreira, Adam E. Locke, Reedik Mägi, ..., **The PAGE Consortium***, *et al.* 2015. New genetic loci link adipose and insulin biology to body fat distribution. *Nature*. **518**(7538):187-196. PMCID: PMC4338562. [***Andrew Nato** listed as a member of The PAGE Consortium]
10. Anthony Musolf, **Alejandro Q. Nato, Jr.**, Douglas Londono, Lisheng Zhou, Tara C. Matise, and Derek Gordon. 2014. Mapping genes with longitudinal phenotypes via Bayesian posterior probabilities. *BMC Proceedings*. **8**(Suppl 1):S81. PMCID: PMC4143622.

11. Andrew R. Wood, Tonu Esko, Jian Yang, Sailaja Vedantam, Tune H Pers, Stefan Gustafsson, ..., **The PAGE Consortium***, *et al.* 2015. Defining the role of common variation in the genomic and biological architecture of adult human height. *Nature*. **46**(11):1173-1186. PMID: PMC4250049. [*Andrew Nato listed as a member of The PAGE Consortium]
12. Logan Dumitrescu, Cara L. Carty, Nora Franceschini, Lucia A. Hindorff, Shelley A. Cole, Petra Bužková, Fredrick R. Schumacher, Charles B. Eaton, Robert J. Goodloe, David J. Duggan, Jeff Haessler, Barbara Cochran, Brian E. Henderson, Iona Cheng, Karen C. Johnson, Chris S. Carlson, Shelly-Anne Love, Kristin Brown-Gentry, **Alejandro Q. Nato**, Miguel Quibrera, Ralph Shohet, José Luis Ambite, Lynne R. Wilkens, Loïc Le Marchand, Christopher A. Haiman, Steven Buyske, Charles Kooperberg, Kari E. North, Myriam Fornage, and Dana C. Crawford. 2013. No evidence of interaction between known lipid-associated genetic variants and smoking in the multi-ethnic PAGE population. *Human Genetics*. **132**(12):1427-31. PMID: PMC3895337.
13. Megan D. Fesinmeyer, James B. Meigs, Kari E. North, Fredrick R Schumacher, Petra Bužková, Nora Franceschini, Jeffrey Haessler, Robert Goodloe, Kylee L. Spencer, V. Saroja Voruganti, Barbara V. Howard, Rebecca Jackson, Laurence N. Kolonel, Simin Liu, JoAnn E. Manson, Kristine R. Monroe, Kenneth Mukamal, Holli H. Dilks, Sarah A. Pendergrass, **Andrew Nato**, Peggy Wan, Lynne R. Wilkens, Loic Le Marchand, José Luis Ambite, Steven Buyske, Jose C. Florez, Dana C. Crawford, Lucia A. Hindorff, Christopher A. Haiman, Ulrike Peters, and James S. Pankow. 2013. Genetic variants associated with fasting glucose and insulin concentrations in an ethnically diverse population: results from the Population Architecture using Genomics and Epidemiology (PAGE) Study. *BMC Medical Genetics*. **14**:98. PMID: PMC3849560.
14. Christopher S. Carlson, Tara C. Matise, Kari E. North, Christopher A. Haiman, Megan D. Fesinmeyer, Steven Buyske, Fredrick R. Schumacher, Ulrike Peters, Nora Franceschini, Marylyn D. Ritchie, David J. Duggan, Kylee L. Spencer, Logan Dumitrescu, Charles B. Eaton, Fridtjof Thomas, Alicia Young, Cara Carty, Gerardo Heiss, Loic Le Marchand, Dana C. Crawford, Lucia A. Hindorff, Charles L. Kooperberg, **PAGE Consortium***. 2015. Generalization and dilution of association results from European GWAS in populations of non-European ancestry: The PAGE study. *PLoS Biology*. **11**(9):e1001661. PMID: PMC3775722. [*Andrew Nato listed as a member of the PAGE Consortium]
15. Logan Dumitrescu, Cara L. Carty, Nora Franceschini, Lucia A. Hindorff, Shelley A. Cole, Petra Bužková, Fredrick R. Schumacher, Charles B. Eaton, Robert J. Goodloe, David J. Duggan, Jeff Haessler, Barbara Cochran, Brian E. Henderson, Iona Cheng, Karen C. Johnson, Chris S. Carlson, Shelly-Anne Love, Kristin Brown-Gentry, **Alejandro Q. Nato**, Miguel Quibrera, Garnet Anderson, Ralph Shohet, José Luis Ambite, Lynne R. Wilkens, Loïc Le Marchand, Christopher A. Haiman, Steven Buyske, Charles Kooperberg, Kari E. North, Myriam Fornage, and Dana C. Crawford. 2013. Post genome-wide association study challenges for lipid traits: describing age as a modifier of gene-lipid associations in the Population Architecture using Genomics and Epidemiology (PAGE) study. *Annals of Human Genetics*. **77**(5): 416–425. PMID: PMC3796061.
16. Lili Zhang, Nora Franceschini, Petra Buzkova, Christina L. Wassel, Mary J. Roman, Kari E. North, Dana C. Crawford, Jonathan Boston, Kristin D. Brown-Gentry, Shelley A. Cole, Ewa Deelman, Robert Goodloe, Gerardo Heiss, Nancy S. Jenny, Neal W. Jorgensen, Tara C. Matise, Bob E. McClellan, Jr., **Alejandro Q. Nato, Jr.**, Marylyn D. Ritchie, Sarah Wilson, and WH Linda Kao. 2013. Lack of associations of ten candidate coronary heart disease risk genetic variants and subclinical atherosclerosis in four U.S. populations: the Population Architecture using Genomics and Epidemiology (PAGE) Study. *Atherosclerosis*. **228**(2):390-9. PMID: PMC3717342.
17. Wonkuk Kim, Douglas Londono, Lisheng Zhou, Jinchuan Xing, **Alejandro Q. Nato**, Anthony M. Musolf, Tara C. Matise, Stephen J. Finch, and Derek Gordon. 2012. Single variant and multi-variant trend tests for genetic association with next generation sequencing that are robust to sequencing error. *Human Heredity*. **74**(3-4):172-183. Accepted 01/04/2013. PMID: PMC3863939.
18. Makoto K. Shimada, Karuna Panchapakesan, Sarah Tishkoff, **Alejandro Q. Nato, Jr.**, and Jody Hey. 2007. Divergent haplotypes and human history as revealed in a worldwide survey of X-linked DNA sequence variation. *Mol Biol Evol*. **24**(3):687-698. (Adv Access: 14 Dec 2006). PMID: 17175528.
19. Elmer-Rico E. Mojica, **Alejandro Q. Nato, Jr.**, Maria Edlyn T. Ambas, Chitho P. Feliciano, Maria Leonora D.L. Francisco, and Custer C. Deocaris. 2005. Application of irradiation as pretreatment method in the production of fermented fish paste. *J Appl Sci Res*. **1**(1): 90-94.
20. Teresa Yulo-Nazarea, **Alejandro Q. Nato, Jr.**, Eliza B. Enriquez, Lorna Jean H. Palad, Fe M. dela Cruz, Teofilo Y. Garcia, Antonio A. Asada, Jr., and Maria Lucia C. Cobar. 2004. Radiological surveillance of the former U.S. Base: Poro Point, San Fernando City, La Union. *Philipp Nucl J*. **14**:40-47.

21. Custer C. Deocaris, Maria Cereza R. Velasco, Earl Louis Sempio, **Alejandro Q. Nato, Jr.**, and Apolinario D. Nazarea. 2002. An evolutionary perspective on the possible involvement of plasminogen in the pathology of bovine spongiform encephalopathy. *Phil J Vet Anim Sci.* 28(2):58-67.
22. **Alejandro Q. Nato, Jr.**, Eliza B. Enriquez, Ariel T. Ortiz, and Custer C. Deocaris. 2001. Putative bioindicator of ¹³⁷Cs in *Perna viridis*. *Philipp Nucl J.* 13:77-79.
23. Teresa Yulo-Nazarea, Ma. Lucia C. Cobar, **Alejandro Q. Nato, Jr.**, and Apolinario D. Nazarea. 2001. Somatic mutation in peripheral blood lymphocytes among Metro Manila residents: Indicator of exposure to environmental pollution. *Philipp Nucl J.* 13:11-22.

Technical and Progress Reports Catalogued by INIS

1. **Alejandro Q. Nato, Jr.**, Sheila C. Sajise, and Custer C. Deocaris. 2002. Low incidence of germline mutation in *BRCA1* exon 11 among early-onset and familial Filipino breast cancer patients. *INIS.* 33(47): RN 33064734.
2. **Alejandro Q. Nato, Jr.**, Sheila C. Sajise, and Custer C. Deocaris. 2002. Radioactive PTT as part of screening protocol for prospecting radiation workers. *INIS.* 33(47): RN 33064733. Also in *Proceedings of the International Youth Nuclear Congress 2002*, Daejeon, KOREA. 16-20 April 2002.
3. Teresa Yulo-Nazarea, **Alejandro Q. Nato, Jr.**, and Carol B. Coloma. 1999. AFLP-PCR molecular screening of Co-60 gamma radiation induced variant of *Murraya exotica* and *Dracaena sanderiana*. *PNRI 1999 Technical Progress Report (INIS.* 32(19): RN 32020574), 15-24.
4. Emerenciana B. Duran, Teresa Yulo-Nazarea, Teofilo Y. Garcia, Cecilia M. de Vera, Rolando Y. Reyes, **Alejandro Q. Nato, Jr.**, and Antonio A. Asada, Jr. 1999. Radiological surveillance report: Clark Special Economic Zone. *PNRI 1999 Technical Progress Report (INIS.* 32(19): RN 32020574), 45-49.
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ORAL PRESENTATIONS AND POSTERS

Oral Presentations (Nato presented)

1. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Harkirat K. Sohi, Hiep D. Nguyen, Zoran Brkanac, and Ellen M. Wijsman. 2016. Pedigree-based analysis pipeline. *ARD Lecture Series*. PNRI, Dliman, Quezon City, Philippines. 22 November 2016.
2. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Harkirat K. Sohi, Bowen Wang, Hiep D. Nguyen, Joseph M. Viscochil, Hilary Coon, and Ellen M. Wijsman. 2016. Identification of candidate genes for IQ discrepancy in extended families with autism using whole exome sequencing data. *ARD Lecture Series*. PNRI, Dliman, Quezon City, Philippines. 22 November 2016.
3. **Alejandro Q. Nato, Jr.**, Fang Chen, Xiangyang Kong, Bruce Byrne, Joseph Naus, Chi-Hua Chiu, Steven Buyske, Linda M. Brzustowicz, and Tara C. Matise. 2008. Genomic characterization of schizophrenia candidate gene regions. *Genetics Departmental Retreat*. New Brunswick, NJ, USA. 22 May 2008.
4. **Alejandro Q. Nato, Jr.**, Xiangyang Kong, Chunsheng He, Anthony M. Cui, Linda M. Brzustowicz, and Tara C. Matise. 2006. Genomic characterization of schizophrenia candidate gene regions. *ARD Lecture Series*. PNRI, Diliman, Quezon City, Philippines. 25 August 2006.
5. **Alejandro Q. Nato, Jr.** 2003. Country Report for the IAEA/RCA Project Formulation Meeting on Improving Regional Capacity for Assessment, Planning and Responding to Aquatic Environmental Emergencies. *Australian Nuclear Science and Technology Organization*, Lucas Heights, NSW, AUSTRALIA. 21-25 July 2003.
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9. **Alejandro Q. Nato, Jr.** 1998. *BRCA1* PTT: A definite eye opener for early detection of breast cancer? *During the 1st Philippine Breast Cancer Congress* from 29-30 October 1998. Miriam College, Katipunan Avenue, Quezon City, PHILIPPINES.
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Oral Presentations (Co-authored; *Presentor)

1. Shahzad Ahmad*, Najaf Amin, Elizabeth Blue, Sven Van Der Lee, **Alejandro Q. Nato**, Harkirat Sohi, Bowen Wang, Eric Boerwinkle, Anita L. DeStefano, Ellen Wijsman, and Cornelia M. Van Duijn. 2016. Genome wide linkage analysis identifies novel candidate genes for Alzheimer's disease. *During the Annual Alzheimer's Association International Conference*, Toronto, Ontario, Canada. 24-28 July 2016. [*Alzheimer's & Dementia*. **12**(7):196.]
2. **Alejandro Q. Nato, Jr.**, Xiangyang Kong, Fang Chen, Steven Buyske, Chunsheng He, Chi-Hua Chiu, Linda M. Brzustowicz, and Tara C. Matise*. Genomic characterization of schizophrenia candidate gene regions. *During the Gordon Research Conference: Human Genetics and Genomics*, Salve Regina University, Newport, RI, USA. 22-27 July 2007.
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Posters (Nato presented)

1. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Harkirat K. Sohi, Bowen Wang, Hiep D. Nguyen, Joseph M. Viscochil, Hilary Coon, and Ellen M. Wijsman. 2016. Identification of candidate genes for IQ discrepancy in extended families with autism using whole exome sequencing data: An update. *American Society of Human Genetics (ASHG) 66th Annual Meeting*. Vancouver Convention Centre, Vancouver, BC V6C 0C3, CANADA. 18-22 October 2016.
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6. **Alejandro Q. Nato, Jr.**, Bo Li, Fang Chen, James H. Millonig, and Tara C. Matise. 2012. A bioinformatics approach for the identification of developmental QTL candidate genes. *ASHG 62nd Annual Meeting*. Moscone Center, San Francisco, CA, USA. 6-10 October 2012.
7. **Alejandro Q. Nato, Jr.**, Xiangyang Kong, Bruce Byrne, Joseph Naus, Derek Gordon, Steven Buyske, Linda M. Brzustowicz, and Tara C. Matise. 2012. Genomic characterization of schizophrenia candidate gene regions. *Brain Health Institute Inaugural Neuroscience Poster Session and Reception*. Life Sciences Building, Rutgers University, Piscataway, NJ, USA. 24 April 2012.
8. **Alejandro Q. Nato, Jr.**, Steven Buyske, and Tara C. Matise. 2012. The Rutgers map: A third-generation combined linkage-physical map of the human genome. *Human Genetics Institute of New Jersey Second Research Day*. Life Sciences Building, Rutgers University, Piscataway, NJ, USA. 18 April 2012.
9. **Alejandro Q. Nato, Jr.**, Xiangyang Kong, Bruce Byrne, Joseph Naus, Derek Gordon, Steven Buyske, Linda M. Brzustowicz, and Tara C. Matise. 2011. Genomic characterization of schizophrenia candidate gene regions. *3rd Annual Postdoc Appreciation Day Symposium*. West Lecture Hall, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, USA. 22 September 2011.
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20. Teresa Yulo-Nazarea and **Alejandro Q. Nato, Jr.** A chromogenic test for irradiated oriental fruit fly *Bactrocera philippinensis*, as a quarantine diagnostic kit. *Second Philippine Nuclear Congress* from 10-12 December 1996. Manila Midtown Hotel, Manila, PHILIPPINES.
21. Teresa Yulo-Nazarea and **Alejandro Q. Nato, Jr.** Gs-protein: A tyrosinase enzyme from *Bactrocera philippinensis*. *Atomic Energy Week* from 11-15 December 1995. PNRI, Diliman, Quezon City, PHILIPPINES.
22. Teresa Yulo-Nazarea and **Alejandro Q. Nato, Jr.** Gs-protein: A radiation sensitive enzyme in oriental fruit fly (*Bactrocera sp.*). *6th Asian Chemical Congress / 11th Philippine Chemistry Congress* from 22-23 May 1995. Philippine Village Hotel, Manila, PHILIPPINES.*
23. **Alejandro Q. Nato, Jr.** and Apolinario D. Nazarea. Design of multivalent synthetic peptide vaccines against infectious laryngotracheitis virus and equine herpesviruses 1 and 4. *19th National Convention of PSBMB* on 03 December 1994. MSI, UP Diliman, Quezon City, PHILIPPINES (*undergraduate category*).
24. Teresa Yulo-Nazarea and **Alejandro Q. Nato, Jr.** Gs-protein: A radiation sensitive gene product of oriental fruit fly (*Dacus dorsalis*). *19th National Convention of PSBMB* on 03 December 1994. MSI, UP Diliman, Quezon City, PHILIPPINES (*graduate category*) / *Atomic Energy Week* from 12-16 December 1994. PNRI, Diliman, Quezon City, PHILIPPINES.

Posters (Co-authored; *Presenter)

1. Shahzad Ahmad*, Najaf Amin, Elizabeth Blue, Sven Van Der Lee, **Alejandro Q. Nato**, Harkirat Sohi, Bowen Wang, Eric Boerwinkle, Anita L. DeStefano, Ellen Wijsman, and Cornelia M. Van Duijn. 2016. Genome wide linkage analysis identifies novel candidate genes for Alzheimer's disease. *American Society of Human Genetics (ASHG) 66th Annual Meeting*. Vancouver Convention Centre, Vancouver, BC V6C 0C3, CANADA. 18-22 October 2016.
2. Anthony M. Musolf*, Douglas Londono, **Alejandro Q. Nato, Jr.**, Philippe Vuistiner, January Brandon, John A. Herring, Carol A. Wise, Hong Zou, Meilei Jin, Lei Yu, Stephen J. Finch, Pascal Bovet, Murielle Bochud, Tara C. Matise, and Derek Gordon. 2013. A new approach to finding association with complex, longitudinal phenotypes using population data. *ASHG 64th Annual Meeting*. San Diego Convention Center, San Diego, CA, USA. 18-22 October 2014.
3. Anthony M. Musolf*, Douglas Londono, **Alejandro Q. Nato, Jr.**, Philippe Vuistiner, Carol A. Wise, Lei Yu, Stephen J. Finch, Pascal Bovet, Murielle Bochud, Tara C. Matise, and Derek Gordon. 2013. Slicing the genome: a new approach to association in complex, longitudinal diseases. *ASHG 63rd Annual Meeting*. Boston Convention and Exhibition Center, Boston, MA, USA. 22-26 October 2013.
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5. Gowri Kumaraguruparan, Gaurang Mehta, **Alejandro Q. Nato, Jr.**, Jose Luis Ambite, Steven Buyske, Rajiv Mayani, Congxing Cai, Jens S. Vockler, Ewa Deelman, and Tara C. Matise. 2012. Curating genomic epidemiology data in The PAGE Study. *ASHG 62nd Annual Meeting*. Moscone Center, San Francisco, CA, USA. 6-10 October 2012.
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9. Bo Li*, Paul G. Matteson, **Alejandro Q. Nato, Jr.**, Tara C. Matise, Vikas Nanda, and James H. Millonig. 2011. Vacuolated lens (*vl*): a multigenic mouse mutant model of Neural Tube Defects (NTDs). *25th Anniversary CABM Symposium*. Main Lecture Hall, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, USA. 21 October 2011.
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11. Bo Li*, Paul G. Matteson, **Alejandro Q. Nato, Jr.**, Tara C. Matise, and James H. Millonig. 2010. Investigating the molecular genetic basis of the vacuolated lens (*vl*) mouse mutant. *Joint Molecular Biosciences Graduate Student Association 4th Annual Symposium*. Life Sciences Building, Rutgers University, Piscataway, NJ, USA. 12 March 2010.
12. Elmer-Rico E. Mojica, Custer C. Deocaris, Jose Rene L. Micor, **Alejandro Q. Nato, Jr.**, and Jaderick P. Pabico*. 2004. Solving hard computational problems via *in silico* molecular catalysis. *National Academy of Science & Technology 26th Annual Scientific Meeting* from 14-15 July 2004. Manila, PHILIPPINES.*
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16. Sheila C. Sajise*, **Alejandro Q. Nato, Jr.**, Custer C. Deocaris, and Cynthia P. Saloma. 2002. Mutation screening in exon 15 of the adenomatous polyposis coli (*APC*) gene in Filipino FAP patients. *4th HUGO Pacific Meeting & 5th Asia-Pacific Conference on Human Genetics* from 21-30 October 2002. Chonburi, THAILAND.
17. Sheila C. Sajise*, **Alejandro Q. Nato, Jr.**, Custer C. Deocaris, and Cynthia P. Saloma. 2002. Mutation in codon 1309 and early-onset of colorectal cancer in two Filipinos with FAP. *4th HUGO Pacific Meeting & 5th Asia-Pacific Conference on Human Genetics* from 21-30 October 2002. Chonburi, THAILAND.
18. Rolando Y. Reyes*, Christina A. Petrache, Nardo Q. Garcia, Estrellita U. Tabora, Julie G. Juson, Teofilo Y. Garcia, and **Alejandro Q. Nato, Jr.** 2002. The application of vehicle borne and ground gamma ray spectrometry in environmental radioactivity survey and monitoring: Examples from the Philippines. *International Nuclear Conference 2002* from 15-18 October 2002. Kuala Lumpur, MALAYSIA.*
19. Custer C. Deocaris*, Peewee Marvin P. Gunay, Richmond R. Gregorio, Art Christian Y. Amurao, Mark Kim R. Zabala, Estrella B. Chico and **Alejandro Q. Nato, Jr.** 2000. Isolation and purification of α -lactalbumin from selected dairy products: Prospecting for potential anti-cancer agents with semblance to human multimeric alpha-Lactalbumin (huMAL). *Philippine Society of Biochemistry and Molecular Biology 37th Annual Convention* in December 2000. SEAFDEC Convention Center, Iloilo, PHILIPPINES.*
20. Custer C. Deocaris*, Peewee Marvin P. Gunay, Richmond R. Gregorio, Art Christian Y. Amurao, Mark Kim R. Zabala, Estrella B. Chico and **Alejandro Q. Nato, Jr.** 2000. Isolation and purification of α -lactalbumin from selected dairy products: Prospecting for potential anti-cancer agents with semblance to human multimeric alpha-lactalbumin (huMAL). *Philippine Society of Animal Science 38th Annual Convention* from 18-19 October 2000. The Heritage Hotel, Manila, PHILIPPINES.*
21. Emerenciana B. Duran*, Teresa Yulo-Nazarea, Teofilo Y. Garcia, Cecilia M. De Vera, Rolando R. Reyes, **Alejandro Q. Nato, Jr.**, and Antonio A. Asada, Jr. Radiological assessment of former US bases: I. Clark Air Base. *National Academy of Science & Technology 22nd Scientific Meeting* from 5-6 July 2000. Manila Hotel, Manila, PHILIPPINES.
22. Paul M. Leyson*, Custer C. Deocaris, Carlos D. Hernandez, **Alejandro Q. Nato, Jr.**, and Gladys N. Punzalan. 1999. Rapid screening for tyrosinase-inhibitors in a microplate format. *15th Philippine Chemistry Congress* from 26-29 May 1999. Cebu International Convention Center, Waterfront Hotel, Lahug, Cebu City, PHILIPPINES.
23. Custer C. Deocaris*, **Alejandro Q. Nato, Jr.**, Elena Dacanay, Samantha Marcelo, and Dyan Buenaventura. 1998. Design of a microcolorimetric assay for screening radioprotectors using the oriental fruit fly (*Bactrocera philippinensis*) model. *National Academy of Science & Technology 20th Scientific Meeting* from 8-9 July 1998. Westin Philippine Plaza Hotel, Pasay City, PHILIPPINES.
25. Custer C. Deocaris*, **Alejandro Q. Nato, Jr.**, Apolinario D. Nazarea, and Angel B. Mateo. 1997. Molecular engineering of winged-epitomorphic combipeptides mimicking FMDV serotype A VP1 polyprotein (135-146). *21st Annual Convention of the Philippine Society for Biochemistry and Molecular Biology (PSBMB)* from 6-7 December 1997. CMW Auditorium, University of Santo Tomas, España, Manila, PHILIPPINES.

26. Teresa Yulo-Nazarea and **Alejandro Q. Nato, Jr.** A tyrosinase enzyme: chromogenic biomarker for radiation injury in *Bactrocera philippinensis*. *13th Philippine Chemistry Congress* from 28-31 May 1997. Palawan, PHILIPPINES. 214-220.

WEBSITES, RESOURCES, AND TOOLS DEVELOPED OR DESIGNED

1. **Alejandro Q. Nato, Jr.**, Nicola H. Chapman, Harkirat K. Sohi, Hiep D. Nguyen, Zoran Brkanac, and Ellen M. Wijsman. 2015. PBAP: A pipeline for family-based quality control of pedigree structures and dense genetic marker data. https://faculty.washington.edu/wijsman/progdists/pbap/pbap_v1.00.tar.gz.
2. **Alejandro Q. Nato, Jr.**, Steven Buyske, and Tara C. Matise. Rutgers Map Interpolator. 2012. http://compgen.rutgers.edu/map_interpolator.shtml. Designed this web tool with Fang Chen for Build 36 under Dr. Tara Matise. (I upgraded this in 2017 to handle both Builds 36 and 37.3 and can now give results for hundreds thousands of physical positions in a few minutes.)
3. **Alejandro Q. Nato, Jr.**, Xiangyang Kong, Fang Chen, Bruce Byrne, Joseph Naus, Chi-Hua Chiu, Steven Buyske, Linda M. Brzustowicz, and Tara C. Matise. 2011. Genomic characterization of schizophrenia candidate gene regions. <http://compgen.rutgers.edu/schiz.shtml>. Includes SCR Search Tool.
4. **Alejandro Q. Nato, Jr.**, Bo Li, Fang Chen, James H. Millonig, and Tara C. Matise. 2011. A bioinformatics approach for the identification of developmental QTL candidate genes. http://compgen.rutgers.edu/devQTL_main.shtml.
5. **Alejandro Q. Nato, Jr.** and Tara C. Matise. 2010. Human and mouse gene catalogue. <http://compgen.rutgers.edu/gene.shtml>. (updated when there is a new fully patched genome assembly)
6. Department of Genetics, Rutgers University. 2008. <http://lifesci.rutgers.edu/~genetics>. Designed the website as a member of the Website Development Committee of the RU-Department of Genetics (2006-2008). This was replaced by the current version (<http://genetics.rutgers.edu>) developed in 2009 where I was no longer a part of the committee.

TRAINING COURSES, WORKSHOPS, AND ECHO SEMINARS

- 2015 **Participant**, School of Medicine Office of Faculty Development's Workshop: Scientific Writing and Publishing by University of Washington Department of Medicine, Seattle, WA, USA (29 April 2015)
- 2014 **Participant**, Future Faculty Fellows Workshop by University of Washington Department of Medicine, Seattle, WA, USA (26-27 August 2014)
- 2013 **Participant**, Survival Skills for the Research Years by University of Washington Department of Medicine, Seattle, WA, USA (18-19 July 2013)
- 2009 **Participant**, Technical Paper Writing Course by Center for Advanced Information Processing, CoRE Building, Rutgers University, Piscataway, NJ, USA (2-4 November 2009)
- 2009 **Participant**, UCSC Genome Browser and Galaxy Framework Interactive Workshop (intermediate/advanced) during the ASHG 59th Annual Meeting. Hawaii Convention Center, Honolulu, HI, USA (22 October 2009)
- 2009 **Participant**, UCSC Genome Browser and Galaxy Framework Interactive Workshop (beginner) during the ASHG 59th Annual Meeting. Hawaii Convention Center, Honolulu, HI, USA (21 October 2009)
- 2009 **Participant**, DIMACS Workshop on Identifying Genetic Signatures for the Evolution of Complex Phenotypes, CoRE Building, Rutgers University, Piscataway, NJ, USA (11-12 June 2009)
- 2008 **Participant**, DIMACS Workshop on Computational Issues in Genetic Epidemiology, DIMACS Center, CoRE Building, Rutgers University, Piscataway, NJ, USA (21-22 August 2008)
- 2007 **Participant**, HapMap Tutorial: Working with the HapMap Website during the ASHG 57th Annual Meeting, San Diego Marriott Hotel and Marina, San Diego, CA, USA (25 October 2007)
- 2007 **Participant**, DIMACS Short Course: A Field Guide to GenBank and NCBI Molecular Biology Resources, DIMACS Center, CoRE Building, Rutgers University, Piscataway, NJ, USA (11-12 April 2007)
- 2006 **Participant**, Advanced Gene Mapping/Linkage Course by Rockefeller University, New York, NY, USA (11-15 December 2006)
- 2006 **Participant**, Basic Gene Mapping/Linkage Course by Rockefeller University, New York, NY, USA (19-23 June 2006)
- 2003 **Participant**, Tutorial Meeting on Enhancing the Marine Coastal Environment, Quezon City, Philippines (26 February 2003)
- 2001 **Observer**, Regional Training Workshop on Modeling Water Quality and Validation using Radiotracer Techniques (Harmful Algal Bloom Issues), Philippines, utilizing RMA software for 3D radiotracer modeling in the marine environment, Island Cove, Cavite, Philippines (2-7 April 2001)
- 2000 **Participant**, Laboratory Demonstration on AFLP-PCR Molecular Technique for Screening Polymorphisms in Variant Crops, PNRI, Quezon City, Philippines (7-16 November 2000)

- 1999 **Echo Seminar**, Radiation Protection (Dose Assessment): Environmental Risk Assessment and 3D Modeling, Quezon City, Philippines (27 October 1999)
- 1998 **Echo Seminar**, Environmental Radioactivity Analyses in Japan, Quezon City, Philippines (18 March 1998)
- 1997 **Participant**, Lecture Series on Biomolecular Modeling, Ateneo de Manila University, Quezon City, Philippines (14, 16, 21, 23 July 1997)
- 1995 **Participant**, Hands-on Workshop on SDS Gel Electrophoresis, Flatbed Isoelectric Focusing, and Immunoblotting (MBB Program, UP Diliman), Quezon City, Philippines (1-2 December 1995)
- 1994 **Participant**, IAEA/PNRI/PCASTRD-sponsored First National Training Course on Radiation Chemistry, Quezon City, Philippines (14-25 November 1994)
- 1994 **Participant**, 74th Radioisotope Techniques Training Course by PNRI, Quezon City, Philippines (14 February – 11 March 1994)
- 1994 **Participant**, Computerized Database Management Programming Course by PNRI, Quezon City, Philippines (4-8 April 1994)

TEACHING RESPONSIBILITIES

Lecture

- 2014 **Pedigree-based analysis pipeline (PBAP)**. Thompson Lab NIH Group. November 7, 2014. University of Washington, Seattle, WA
- 2014 **Pedigree-based analysis pipeline (PBAP)**. Biostat 581: Statistical genetics seminar. April 22, 2014. University of Washington, Seattle, WA
- 2001 **Applications of radioisotopes in molecular biology**. Lecture during the one-month Training Course on Radioisotopes for High School Biology Teachers on April 18, 2001 at PNRI, Diliman, Quezon City, Philippines
- 1994 **Basic stoichiometry and redox reactions**. Two-meeting lecture at the University of the Philippines-Manila, Taft Avenue, Manila, Philippines for undergraduate students.

Thesis Advising

- 2004 **DNA fingerprinting of ⁶⁰Co- γ radiation induced variants of cashew (*Anacardium occidentale* L.) using AFLP-PCR** (Thesis Co-Advisor of Ma. Abigail G. Perez and Rommel R. Valdez, B.S. Biology, Rizal Technological University – Mandaluyong City)
- 2002 **BRCA1 mutation and polymorphisms in breast cancer patients using PTT and SSCP** (Thesis Co-Advisor of Gretchen Gayle S. Panganiban and Josephine Ann G. Santos, B.S. Biology, UP Manila; Gretchen and Josephine are medical doctors now)

Research Mentoring, Tutoring, and Supervising

- 2015, 2016 **Supervised graduate students** in course Biostat 581 for their presentations: Alice B. Popejoy and Brenton R. Swenson (Feb 2015), Bowen Wang and Yatong Li (Feb 2016), Kelsey Grinde and Tracy Duong (Oct 2016)
- 2013 **Tutored graduate students** in course Biostat 550. Spring 2013. University of Washington, Seattle, USA
- 2008-2009 **Schizophrenia study** (Supervised Danielle Chimento, B.S. Genetics, Rutgers University, NJ, USA)
- 2004 **A prototype tool to formulate the constituents of a synthetic peptide vaccine** (Research Mentor and Thesis Resource Person of Jacqueline A. Teo, M.S. Information Technology, De La Salle University – Taft, Manila)
- 2004 **Molecular biology laboratory techniques** (trained Chitho P. Feliciano from Rizal Technological University – Mandaluyong City for three months; he is now a Senior Science Research Specialist at the Biomedical Research Section of PNRI and the Editor-in-Chief of the Philippine Nuclear Journal)
- 2000 **Putative radioresistant bacterial isolate from sewage water** (April Ang, Patricia Chua, Kristine Perez, April Rey, Kristel Rivor, Czarina San Pablo, and Ernestine Santos from Miriam College High School)
- 1998 **SDS-PAGE and its applications** (Murni Indarwatmi, IAEA Fellow from Indonesia)
- 1997 **Effects of γ -radiation on *Vigna unguiculata*** (Michelle A. Rosario and Jesusa B.G. S. Butor from Centro Escolar University)
- 1997 **Interaction of radioprotective effects of reduced glutathione and butylated hydroxyanisole, a known inducer of glutathione synthase in 3rd instar larvae of *Bactrocera philippinensis*** (Dyan Buenaventura, Samantha Marcelo and Elena Dacanay from Philippine Science High School: Finalist during the 49th NCR Search for INTEL Outstanding Research, High School Division)
- 1996 **Laboratory techniques** (Sherwin Sayson from Philippine Science High School)

COURSES AUDITED

- 2014 (Winter) **Statistical Genetics III: Design and Analysis (Stat/Biostat 552)**. Dr. Ellen M. Wijsman, University of Washington, Seattle, WA
- 2013 (Autumn) **Statistical Genetics II: Discrete Quantitative Genetics (Stat/Biostat 551)**. Dr. Timothy A. Thornton, University of Washington, Seattle, WA
- 2013 (Spring) **Statistical Genetics I: Discrete Mendelian traits (Stat/Biostat 550)**. Dr. Elizabeth A. Thompson, University of Washington, Seattle, WA
- 2010 **Design of Experiments (Stat 590)**. Dr. Steven Buyske, Rutgers University, NJ, USA

PROFESSIONAL AFFILIATIONS

Membership in Professional Organizations

- Trainee Member, American Society of Human Genetics, 2006-present
- Member, American Association for the Advancement of Science, 2006-2009
- Member, Joint Molecular Biosciences Graduate Student Association, 2004-2011
- Philippine Association for Radiation Protection (PARP), 1995-2004
- Radioisotope Society of the Philippines (RSP), 1994-2004
- Philippine Society for Biochemistry and Molecular Biology (PSBMB), 1994-present (*lifetime member*)
- PNRI Employees' Union (PNRIEU), 1994-2004

Membership in Professional Committees

- Member, ASHG Seattle Genetics Meet-Up Working Group, June 2015-Dec 2015
- Member, ASHG Featured Chat Fridays Subcommittee, Dec 2014-Feb 2017
- Second-Round Judge, ASHG's DNA Day Essay Contest, 2014-2017
- Member/Web Designer, Website Committee, Department of Genetics, Rutgers University, NJ, USA, 2006-2008
- Chairman, Souvenir Program Committee, Atomic Energy Week (AEW), 2003
- Member, PNRI Website Development Committee, 2001-2004
- Member, Secretariat, Regional Training Workshop on Modeling Water Quality and Validation using Radiotracer Techniques (Harmful Algal Bloom Issues), Philippines, 2001
- Member, Constitutional Committee, U.P. Green League Alumni Association, 2000-2004
- Chairman, Souvenir and Souvenir Program Committee, AEW 1998
- Member, Secretariat, Project Formulation Meeting on Marine Coastal Environment and Its Pollution, Philippines, 1998
- Chairman, Technical Poster Committee (Nukteck '97), AEW 1997
- Member, Invitation Committee, Philippine Association for Radiation Protection (PARP) Biennial Convention, 1997
- Co-Chairman, Technical Exhibits Committee (NucArtek '96), AEW 1996
- Member, Technical Committee (Poster and Program), 2nd Philippine Nuclear Congress, 1996
- Member, Secretariat, Project Formulation Meeting on Reference Asian Man, Phase II, Philippines, 1996
- Member, Tour Guide Committee, AEW 1994 & 1996
- Co-Chairman, Tour Guide Committee, AEW 1995
- Member, Documentation and Proceedings Committee, International Conference on Food Preservation and Security, 1994
- Member, Secretariat, First Global Youth Earth Saving Summit (Global YES), 1993