

# ERICKSON FAJICULAY



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## SUMMARY

- Experienced Research Associate with demonstrated history of working in both **local** and **international** academic research institutions. Approximately **13 years** of work experience.
- Skilled in computer programming, machine learning, data science, and computational analysis applied to scientific problems in **chemistry**, biology, and related fields.
- Strong research professional with a Master of Science in **Chemistry**, with units in Master of Information Systems, and currently a Ph.D. candidate in Bioinformatics with focus on systems biology.

## EDUCATION

Degree	School	Scholarship	Laboratory/Thesis Lab
<b>Ph.D. in Bioinformatics</b> 2018 – present  33 credit units GPA = 4.13 (between A to A <sup>+</sup> )	Institute of Bioinformatics and Structure Biology, National Tsinghua University, 30044, Taiwan	Taiwan International Graduate Program (TIGP), Academia Sinica, Taipei, 115, Taiwan	<b>Theoretical and Physical Chemistry Lab</b>  Institute of Chemistry, Academia Sinica, Taipei, 11529, Taiwan
<b>Master of Information Systems</b> 2017-present (LOA)  18 credit units GWA = 1.458 (~92)	University of The Philippines Open University	Not applicable	Not applicable
<b>Master of Science in Chemistry</b> 2009-2014 (Graduated)  43 credit units GWA = 1.742 (~89)	University of the Philippines, Diliman Quezon City	Accelerated Science and Technology Human Resource Development Program (DOST-ASTHRDP, Lateral Entry)	<b>Computational Chemistry Lab</b>  Institute of Chemistry, University of the Philippines Diliman
<b>Bachelor of Science in Chemistry</b> 2004-2008 (Graduated)  180 credit units (ALL)	Polytechnic University of The Philippines, Sta. Mesa Manila	Serves as a Laboratory Assistant under Dr. Lorna T. Enerva & Dr. Ging Nery	<b>Natural products chemistry</b>  No particular lab.

GWA = 1.538 (~92)  85 chemistry units GWA = 1.253 (~95)			Common Laboratory area with in PUP.
<b>Laboratory High School</b> 2000-2004 (Graduated) Best in Industrial Arts	Batangas State University ARASOF Nasugbu Campus	Apolinario R. Apacible Scholar (Mayor's Scholarship)	Not applicable

## WORK EXPERIENCE

Job title	Company	Duties and Responsibilities
<b>Research Associate</b> Feb 2016- Jul 2018 (2.5 years)	Earth Observatory of Singapore, Nanyang Technological University	Preparing scripts, data population, and user interface development for the World Organization of Volcano Observatories database (WOVOdat) using PHP, MySQL, JS/JQuery, HTML, CSS, etc.  Explores the application of machine learning to improve volcanic eruption forecasting.
<b>Senior Science Research Specialist</b> Feb to Dec 2015 (11 months)	Philippine Textile Research Institute/ Department of Science and Technology	Research and Development  Introduction of Smart properties to textile substrate by chemical modification and surface finishing.
<b>Science Research Specialist I</b> Mar to Nov 2014 (9 months)	University of the Philippines Diliman/ Department of Science and Technology	Design, fabrication, and evaluation of monitoring and sampling devices for particulate matter.  Perform administrative tasks like procurement, etc.
<b>Chemist II</b> Sep 2013 to Jan 2014 (5 months)	CRL Environmental Corporation	Remotely process chemical data from Las Vegas laboratory and upload data to LIMS. (ICPMS, ICP, IC, GRO, and TPH data packaging). Check and encode sample specifications from COC uploaded from Las Vegas.
<b>Science Research Specialist I</b> Sep 2011- Sep 2013 (2 years)	Philippine Institute of Volcanology and Seismology	Chemical analysis of water samples from volcanic areas. Monitor CO <sub>2</sub> and SO <sub>2</sub> concentrations in volcanic plumes and in the vicinity of the volcano. Install, calibrate, and troubleshoot instruments for real-time monitoring of SO <sub>2</sub> and CO <sub>2</sub> . Work with visiting scientists from foreign institutions on collaborative projects.
<b>Part time College Instructor I</b> 2008 – 2012 (~ 4 years )	Polytechnic University of the Philippines	Teach core chemistry subjects to BS Chemistry and non-BS Chemistry students. Prepare lessons, exams, and quizzes.
<b>On job training</b> (one Semester break) Apr-May 2007 (2 months)	Bureau of Food and Drugs	Analysis of the nutritional claims, regulated ingredients, and toxins in food products using HPLC, AAS, IR, UV-vis, etc.
<b>Laboratory Assistant</b> (student assistant) 2005-2007 (~3 years)	Polytechnic University of the Philippines	Prepare chemical reagents and standards for experiments. Handle borrowing and reservation of instruments for experiments

## PUBLICATIONS

**Fajiculay, E.**, Hsu C.P. (2022) Localization of Noise in Biochemical Networks. *ACS Omega* 2023, 8, 3, 3043–3056. <https://doi.org/10.1021/acsomega.2c06113>

**Fajiculay, E.**, Hsu C.P. (2022) BioSANS: A software package for symbolic and numeric biological simulation. *PLoS ONE* 17(4): e0256409. <https://doi.org/10.1371/journal.pone.0256409>

Wu, HW., **Fajiculay, E.**, Wu, JF. *et al.* Noise reduction by upstream open reading frames. *Nat. Plants* 8, 474–480 (2022). <https://doi.org/10.1038/s41477-022-01136-8>

Costa, F., Widiwijayanti, C., Nang, T.Z.W., **Fajiculay, E.**, Espinosa-Ortega, T. and Newhall, C. (2019), "WOVOdat – the global volcano unrest database aimed at improving eruption forecasts", *Disaster Prevention and Management*, Vol. 28 No. 6, pp. 738-751. <https://doi.org/10.1108/DPM-09-2019-0301>

C.G. Newhall, F. Costa, A. Ratdomopurbo, D.Y. Venezky, C. Widiwijayanti, Nang Thin Zar Win, K. Tan, **E. Fajiculay**, WOVOdat – An online, growing library of worldwide volcanic unrest, *Journal of Volcanology and Geothermal Research*, Volume 345, 2017, Pages 184-199, ISSN 0377-0273, <https://doi.org/10.1016/j.jvolgeores.2017.08.003>.

## CONFERENCE ORAL/POSTER PRESENTATIONS

**Fajiculay, E.**, Hsu, C.P., BioSANS: A Software Package for Symbolic and Numeric Biological Simulation. T2COMSA, 2020, Taiwan.

**Fajiculay, E.**, Santoso, A. B., Sulistiyan, Win, N-T-Z., Widiwijayanti, C., Costa, F. Anticipating Volcanic Eruptions using DNA-like Precursors through machine learning. Cities on Volcanoes 10, 2018, Naples Italy.

**Fajiculay, E.**, Win, N-T-Z., Widiwijayanti, C., Costa, F., Newhall, C., Ratdomopurbo, A., 2017, Improving WOVOdat Online Tools For Eruption Forecasts, IAVCEI General Assembly 2017, Portland, USA.

**Fajiculay, E.**, Win, N-T-Z., Widiwijayanti, C., Costa, F., Newhall, C., Ratdomopurbo, A., 2017, WOVOdat-Learn: Online Machine Learning Plugin for WOVOdat. AOGS Meeting 2017, Singapore.

Gunawan, H\*, Kasbani, Kumalasari, R., Widiwijayanti, C., Bornas, M. V., Pallister, J., Iguchi, M., Srigutomo, W., Meilano, I., Triastuty, H., Kuswandarto, H., **Fajiculay, E.**, Win, N-T-Z., Clarito, C., Asrori, M., N., Suparjan, Volcano Monitoring System, Data Management, and Data Processing Automation for Crisis Response at Sinabung Volcano, Indonesia, poster, IAVCEI General Assembly, Portland, USA

Widiwijayanti, C\*, Costa, F., Win, N-T-Z., **Fajiculay, E.**, Newhall, C., Ratdomopurbo, A., WOVO Observatories, WOVOdat as a Localhost Solution For Archiving, Retrieving, and Visualizing Volcano Monitoring Data, oral, IAVCEI General Assembly, Portland, USA.

Widiwijayanti, C\*, Costa, F., Win, N-T-Z., **Fajiculay, E.**, Newhall, C., Ratdomopurbo, A., WOVO Observatories, WOVOdat online tools: Improving and promoting their use for eruption forecasts. AOGS Meeting, oral, Singapore.

Widiwijayanti, C\*, Costa, F., Nang, T-Z-W., **Fajiculay, E.**, Newhall, C., Ratdomopurbo, A., Tan, K., and WOVO, WOVOdat as Localhost Volcano Monitoring Database for Crisis Response. COV9, oral, Puerto Varas, Chile.

## CONFERENCE ORAL/POSTER PRESENTATIONS

Arpa, M., Hernandez Perez, P. A., Reniva, P., Bariso, E., Padilla, G., Melian Rodriguez, G., Barrancos, J., Calvo, D., Nolasco, D., Padron, E., Garduque, R., Villacorte, E., **Fajiculay, E.**, Perez, N., Solidum, R  
Measuring volcanic gases at Taal Volcano Main Crater for monitoring volcanic activity and possible gas hazard. American Geophysical Union, Fall Meeting 2012, abstract id. V53B-2832

## SHORT COURSE / WINTER / SUMMER SCHOOL

2020, 4 months, NTU, Taiwan Mathematics School: Dynamics in Network Systems, R440, Astronomy and Mathematics Building, NTU Taiwan (March 03-June 30)

2019, 4 days, NTU(TW)-Tokyo Institute of Technology, Short Courses for Scientific Computing, Second-order Optimization in Large Scale Deep Learning, NTU Taiwan (July 01-04)

2018, 5 days, NTU(SG)-WARWICK WINTER SCHOOL, Introduction to Complexity Science, Singapore (March 22-23, 26-28)

2014, 4 days, Institute of Environmental Science and Meteorology UP Diliman Quezon City & World Calibration Center for Aerosol Physics: International School on Atmospheric Aerosol Physics, Measurement and Sampling ((Mar 31 – Apr 3, 2014)

## SELECTED CONFERENCE /WORKSHOP ATTENDANCE

2019, 18th Asian Chemical Congress and 20th General Assembly of the Federation of Asian Chemical Societies. Taipei, Taiwan, (5 days, Dec 8-12).

2019, International Workshop on Quantum Computing, Information Processing, and Machine Learning, Taipei, Taiwan (4 days, Dec 2 – 4)

## CONFERENCE HOSTED BY OUR LAB WHERE I SERVE AS A STAFF

2020, Taiwan Theoretical and Computational Molecular Sciences Association (T2CoMSA)

2019, Taiwan Theoretical and Computational Molecular Sciences Association (T2CoMSA)

2019, The Eight Cross-Strait Conference on Theoretical and Computational Chemistry (CTCC-8), Taiwan

## CHEMIST CERTIFICATION

2008 **Board Exam for Chemist** - PASSER

## CODILITY CERTIFICATIONS

Golden Award in May the 4th Challenge

Silver Award in Great Code Challenge

Golden Award in Doge Challenge

Silver Award in The OLX Group Challenge

Golden Award in Palladium 2020 Challenge

Golden Award in Ruthenium 2019 Challenge

Golden Award in Technetium 2019 Challenge

Golden Award in Molybdenum 2019 Challenge

## TRAINING

Java Script and JQuery for Web Interactivity, PHILIPPINE CENTER OF CREATIVE IMAGING 2247 Don Chino Recess Avenue, Makati City (June 21-23, 2013)

PHP/MySQL Developers Training DOST-ASTI, ASTI BUILDING UP DILIMAN QC (June 25-29, 2012)

Online Tutoring Training, ASIA PREMIERE, Makati City, July 15, Aug 21, 2012

## SEMINARS, WORKSHOP & TALKS

<b>RESOURCE SPEAKER</b> <b>Rapid Earthquake Damage Assessment System</b> PDRRMC EASTERN SAMAR	(Nov 18-23, 2012) Hotel Alejandro, Paterno Street Tacloban Leyte
<b>FACILITATOR</b> <b>Rapid Earthquake Damage Assessment System</b> PDRRMC ZAMBOANGGA SIBUGAI	(Sep 16-22, 2012) Zamboanga Sibugay
<b>WATER: A CRITICAL REAGENT TOOL</b> Merck Millipore	Sept 14, 2012 Mariat Hotel Pasay City
<b>NON-CLASSICALITY AND ENTANGLEMENT OF LIGHT FIELD</b> Dr. Young Chul Kim, Ph. D. in Physics from Sunmoon University Korea	(January 27, 2005) Amado V. Hernandez Hall NALRC, Polytechnic University of the Philippines
<b>FORENSIC CHEMISTRY; THE SCIENCE OF INVESTIGATION</b> College of Science, Department of Natural Sciences	February 18, 2005 CS AVR 5th Floor Mabini Campus, Polytechnic University of the Philippines
<b>SUSTAINABLE DEVELOPMENT - WALKING THE TALK</b> Sci Tech R&D Center, Office of the Vice President for R&D, DNS,CS	July 29, 2005 Recreational Hall NALRC, Polytechnic University of the Philippines
<b>TRAUMATOLOGY</b> <b>Understanding The Nature of Trauma, its Symptoms and Impact</b> College of Arts, Department of Psychology	August 10, 2005 Claro M. Recto Hall, Mabini Campus, Polytechnic University of the Philippines
<b>FOOD AND PUBLIC SAFETY</b> College of Science, Department of Natural Sciences, PUP Chemical Society	February 15, 2007, CS AVR 5th floor Mabini Campus, Polytechnic University of the Philippines

## PARTICIPATION IN OUT-REACHED PROGRAM AND ACADEMIC ACTIVITIES

Organizing Committee Member, University General Science Quiz Bee 2008, September 7, 2008

PUP College of Science Tutorial program, Antonio Maceda Integrated School, (Volunteer Tutor)

New Era University Summer kinder Garten Program, Volunteer Teacher For a period of 6 weeks

## AWARDS RECEIVED

Academic Excellence Award, 2nd Year, School Year 2005-2006 (March 23, 2006, CS AVR 5th Floor PUP Mabini Campus)

Academic Excellence award, 3rd Year School year 2006-2007 (March 30, 2007, Claro M. Recto Hall 6th Floor PUP Mabini Campus)

## SEMINARS, WORKSHOP & TALKS

<b>Scientists as Super Sleuths</b> <b>A Symposium on Forensic Sciences</b> Kapisanan ng mga Kimika sa Pilipinas&Organic Chemistry Teachers Association	February 21, 2007 Walter Hogan Conference Center, Ateneo de Manila University
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### REFERENCES

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College Instructor  
Visayas State University  
Ph.D. Student, Czech Republic  
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