


KRYSTLE ANGELIQUE A. SANTIAGO, PHD

 +6011-16201938

 krystleangelique@gmail.com

 Subang Jaya 46150
Selangor, Malaysia

PROFESSIONAL PROFILE

A dedicated, enthusiastic and capable researcher with **2 year-work experience** in the **food industry** and **3 year-work experience** in the **academe**. A passionate researcher with a strong background in **applied microbiology**. A **scientific writer** and a **confident presenter**, able to explain complex scientific information to audience of all levels.

WORK EXPERIENCE

POSTDOCTORAL RESEARCH FELLOW

MONASH UNIVERSITY MALAYSIA

JANUARY 2021 - PRESENT

Working on the metabolomics study of oil-palm-*Ganoderma* interactions

INSTRUCTOR 3

UNIVERSITY OF SANTO TOMAS, MANILA, PHILIPPINES

AUGUST 2015 - JUNE 2016

Taught biology (natural and environmental science) to undergraduate students.

LECTURER/RESEARCHER

FAR EASTERN UNIVERSITY, MANILA, PHILIPPINES

JUNE 2013 - JUNE 2016

Taught microbiology and biology courses (lecture and laboratory) to undergraduate students. Handled undergraduate researches.

MANAGEMENT TRAINEE

ASIA BREWERY INC., CABUYAO, LAGUNA, PHILIPPINES

JUNE 2011 - JUNE 2013

- worked on and studied water, soy milk and beer processing (raw materials/ manufacturing/production, QA/QC, utilities)
- involved in the project management of Soy Milk (Vitamilk™), from planning, machineries and equipment involved, production, QA/QC and research & development
- prepared work instructions for water and beer processing
- conducted research on glass plant furnace (i.e., choice of gas to be used: bunker, coal or compressed natural gas) and wastewater treatment (i.e., application of Vetiver grass)
- conducted refresher course on basic microbiology to QC personnel

Current Address: Subang Jaya, 47500 Selangor, Malaysia

Permanent Address: Batangas City, Batangas 4200 Philippines

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- involved in the Quality Management System team (GMP, GLP, HACCP, ISO 9001:2008)

EDUCATION

DOCTOR OF PHILOSOPHY

Applied Microbiology

Monash University Malaysia (December 2016 to July 2020)

Thesis Title: "Profiling the diversity, bioactivity and metabolomics analysis of endolichenic fungi from Malaysia and the Philippines"

Monash University Malaysia Merit Scholarship Recipient

MASTERS OF SCIENCE IN MICROBIOLOGY

University of Santo Tomas, Philippines (March 2009 to April 2011)

Thesis Title: "The lichen *Usnea* from selected sites of Luzon Island: taxonomy, occurrence, antibacterial properties and interactive database"

DOST-PCHR Graduate Research Scholarship Recipient

Cum Laude (High Distinction)

BACHELOR OF SCIENCE IN MICROBIOLOGY

University of Santo Tomas, Philippines (March 2005 to March 2009)

Thesis Title: "Antibacterial activities of fruticose lichens from selected sites of Luzon Island, Philippines"

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SKILLS

The following skills were acquired from both my **industrial and academic experiences**, including **PhD**:

- Basic microbiology (bacterial and fungal isolation, media preparation, purification of isolates), molecular biology and expertise in handling and operating various laboratory equipment (e.g., autoclave, biosafety cabinet, Polymerase Chain Reaction (PCR) unit, gel electrophoresis system, HPLC (manual), sonicator, rotary evaporator, column chromatography unit, freeze dryer)
- Metabolomics analyses (PCA, OPLS-DA, PLS-DA)
- Analysis of complex data, problem-solving, planning and time management
- Ability to present and organise large amounts of information in a clear manner (through peer-reviewed scientific publications)
- Fluency in Microsoft Office packages
- Ability to communicate effectively and clearly
- Ability to meet tight deadlines with excellent deliverable outputs
- Ability to interact with colleagues of diverse cultural backgrounds
- Creative, pro-active and goal-oriented
- Experiences in both industry and academe manifested a full knowledge of basic and applied research, understanding and application of other fields (e.g., engineering) and interacting with both academic and business professionals.

ACADEMIC ACHIEVEMENTS

- Best Graduate Research Student Award 2018 (Monash University Malaysia)
- 3MT People's Choice Award (2018) Campus Finals (Monash University Malaysia)
- 3MT Wild Card Round Finalist (2018) (Monash University Clayton, Australia)

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- Research attachment for metabolomics analysis (6 weeks, 2018) (University of Strathclyde, Glasgow, Scotland, UK)
- Monash Science Symposium 2018 (*Co-chairperson*)
- Grant Recipient
 - Tropical Medicine & Biology Multidisciplinary Platform Seed Grant (2018) (Monash University Malaysia, RM15,000)
 - Nagao Natural Environment Foundation Grant (2018) (Midori, Tokyo, Japan, JPY500,000)

NON-ACADEMIC ACHIEVEMENTS

- Basic Beer Brewing Course (Asia Brewery Inc.)

Top 1 (1st place), Cabuyao, Laguna, Philippines, 13th December 2011


- Website: www.cartoonitall.com

A fun way of understanding science

PUBLICATIONS

- **Santiago KAA**, dela Cruz TEE, Ting ASY. 2021. Diversity and bioactivities of endolichenic fungi in *Usnea* lichens of the Philippines. *Czech Mycology* **73**(1): 1-19.
- Paguirigan JAG, dela Cruz TEE, **Santiago KAA**, Gerlach A, Aptroot A. 2020. A checklist of lichens known from the Philippines. *Current Research in Environmental & Applied Mycology* **10**(1):319-376.
- **Santiago KAA**, Ting ASY. 2019. Endolichenic fungi from common lichens as new sources for valuable bio-active compounds. *Natural Bio-active Compounds*: Springer; p. 105-27.
- Gazo SMT, **Santiago KAA**, Tjitrosoedirjo SS, dela Cruz TEE. 2019. Antimicrobial and herbicidal activities of the fruticose lichen *Ramalina* from Guimaras Island, Philippines. *Biotropia* **26**(1):23-32.

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- Galinato MGM, Baguionon JRC, **Santiago KAA**. 2018. Review of the lichen genus *Usnea* in the Philippines. *Studies in Fungi* **3**(1):39-48.
- Galinato MGM, Mangubat CB, Leonor DS, Cababa GR, Cipriano BP, **Santiago KAA**. 2017. Identification and diversity of the fruticose lichen *Usnea* in Kalinga, Luzon Island, Philippines. *Current Research in Environmental & Applied Mycology* **7**(4):249-57.
- Timbreza LP, delos Reyes JL, Flores CHC, Perez RJLA, Stockel MAS, **Santiago KAA**. 2017. Antibacterial activities of the lichen *Ramalina* and *Usnea* collected from Mt. Banoi, Batangas and Dahilayan, Bukidnon, against multi-drug resistant (MDR) bacteria. *Austrian Journal of Mycology* **26**:27-42.
- de Jesus EE, Hur JS, Notarte KIR, **Santiago KAA**, dela Cruz TEE. 2016. Antibacterial, antioxidant, and cytotoxic activities of the corticolous lichens *Canoparmelia aptata*, *Pannaria* sp., and *Parmotrema gardneri* collected from Mt. Banahaw, Quezon, Philippines. *Current Research in Environmental & Applied Mycology* **6**(3):173-83.
- **Santiago KAA**, Gazo SMT, dela Cruz TEE. 2014. "The Mystery of the Missing Lichen" - a comic strip. University of Santo Tomas, España, Manila (Funded by the British Mycological Society)
- **Santiago KAA**, Sangvichien E, Boonpragob K, dela Cruz TEE. 2013. Secondary metabolic profiling and antibacterial activities of different species of *Usnea* collected in Northern Philippines. *Mycosphere* **4**(2): 267-80.
- **Santiago KAA**, Borricano JNC, Canal JN, Marcelo DMA, Perez MCP, dela Cruz TEE. 2010. Antibacterial activities of fruticose lichens collected from selected sites in Luzon Island, Philippines. *Philippine Science Letters* **3**(2): 18-29.
- **Santiago KAA**, Edrada-Ebel R, dela Cruz TEE, Cheow YL, Ting ASY. 2021. Biodiscovery of potential antibacterial diagnostic metabolites from the endolichenic fungus *Xylaria venustula* using LC-MS-based metabolomics. *Biology mdpi* (in press)

CONFERENCE PARTICIPATION AND TRAININGS ATTENDED

Conferences

- **Annual Conference of the Association for the General and Applied Microbiology (VAAM)** - Oral presenter

Date & Venue: 17-20 March 2019 / Johannes Gutenberg-Universität, Mainz

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Germany

Title: Antimicrobial screening and metabolomic profiling of the lichen *Usnea* from Malaysia and the Philippines and its associated endolichenic fungi

- **International Congress of the Malaysian Society for Microbiology 2019** - *Oral presenter*

Date & Venue: 11-14 November 2019 / Royale Chulan, Seremban, Malaysia

Title: Targeting bioactive and novel compounds of the lichen *Usnea* and its endolichenic fungi using LC-MS-based metabolomics

- **Mycological Society of the Philippines** - *Oral presenter (1st Place)*

13th Annual Scientific Meeting and Symposium, Theme: *Fungi and Climate Change*

Date & Venue: 15 April 2011 / University of the Philippines, Los Baños, Laguna

- **76th General Membership Assembly of National Research Council of the Philippines** - *Poster presenter (3rd Place, Best Poster)*

Date & Venue: 11 March 2009 / Manila Hotel, Manila

- **13th Annual Convention of the Natural Products Society of the Philippines** - *Poster presenter (3rd Place, Best Poster)*

Date & Venue: December 2008 / University of the Philippines, Diliman, Quezon

City

Trainings (Academic / Non-Academic)

- Workshop on Structural Elucidation of Small Molecules by Nuclear Magnetic Resonance (NMR) Spectroscopy

Date & Venue: 23-24 July 2019 / Monash University Malaysia

- Remote First Aid Course (Certificate No. FS/OFA/2018/955)

Date & Venue: 10-12 August 2018 / Gombak Forest Reserve, Malaysia

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- The Road to High Impact Publications: A one-day workshop
Date & Venue: 8 March 2018 / Monash University Malaysia
- Sessional Teaching Essential Program (STEP) (Learning and Teaching Strategies)
Date & Venue: 21 February 2018 / Monash University Malaysia
- First Aid 2.0 (Basic Occupational First Aid, CPR + AED Course) by The Academy of Safety and Emergency Care
Date & Venue: 30-31 May 2017 / Monash University Malaysia
- Basic DNA Extraction from Various Lichen Species for PCR Analysis
Date & Venue: 14-22 December 2015 / Universiti Teknologi Malaysia, Johor Baru, Malaysia
- ASI Technical Training on Beer haze Formation and Beer Stability
Date & Venue: 11 September 2012 / Asia Brewery Inc., Laguna
- Basic Brewing Course for Brewers (Brewing Certification Course)
Date & Venue: June to December 2012 / Asia Brewery Inc., Laguna
- Good Manufacturing Practices (GM) & Hazard Analytical Critical Control Point (HACCP) Training
Date & Venue: 21-23 March 2012 / Asia Brewery Inc., Laguna
- Operational Failure Mode & Effect Analysis (FMEA) Training
Date & Venue: 17 August 2011 / Asia Brewery Inc., Laguna
- QC Tools & Problem Solving Methodology
Date & Venue: 6 August 2011 / Asia Brewery Inc., Laguna
- Process Control Plan Training
Date & Venue: 128 July 2011 / Asia Brewery Inc., Laguna
- Lichen Training (Identification and TLC)

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Date & Venue: 2 June 2013 & 4-22 October 2010 / Ramkhamhaeng University,
Bangkok, Thailand

- Techniques on Basic Toxicity Assay

Date & Venue: 10 May 2010 to 11 June 2010 / National Center for Genetic
Engineering and Biotechnology (BIOTEC), Pathumthani, Thailand

- Microbial Culture Collections

Date & Venue: January to December 2010 / UST Thomas Aquinas Research Center,
University of Santo Tomas, Manila

SUPERVISED UNDERGRADUATE THESES (MAIN SUPERVISOR)

- **Title of Research Project:** Identification of fruticose lichens collected from the provinces of Batangas, Laguna and Mt. Province and its assessment on its antibacterial properties

Duration: June 2013 to March 2014

Students: Carmela Magpile, Dawn Clara Magdalena, Neil Franz Paguirigan, Ma.

Jesusa del Rosario and Edenille Alcaraz

- **Title of Research Project:** Identification of *Usnea* spp. collected from Nueva Vizcaya and assessment of its pesticidal activity against *Aspidiotus rigid* Reyne (Hemiptera: Diaspididae)

Duration: June 2014 to March 2015

Students: John Mark Bañez, Gervaine Agbayani and Karla Balein

- **Title of Research Project:** Diversity of fruticose lichen *Usnea* in Kalinga, Luzon Island, Philippines and the development of interactive key

Duration: June 2014 to March 2015

Students: Mark Gabriel Galinato, Dyanara Sula, Georgina Cababa, Bianca Pauline
Cipriano and Chiruel Mangubat

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- **Title of Research Project:** Antibacterial activities of the lichen *Ramalina* and *Usnea* collected from Mt. Banoi, Batangas and Dahilayan, Bukidnon against selected multi-drug resistant bacteria

Duration: June 2015 to March 2016

Students: Lawrence Timbreza, Jhorelle delos Reyes, Charles Henry Flores, Robert John Louie Perez and Maria Agnes Stockel

- **Title of Research Project:** Autofluorescence as a potential environmental stress indicator of *Usnea* spp. in Mt. Polis. Ifugao, Northern Luzon, Philippines

Duration: June 2015 to March 2016

Students: Jean Pearl Banya-ao, Darcylene del Rosario, Ma. Richelle Gagtan, Camille Joy Patron and Danecee Clarisse Rivera

CAREER TALK AND WORKSHOP CONDUCTED

- **“Writing my research proposal”**

Gearing up for research: A seminar-forum on research design and process

9 February 2021 / UST College of Science

- **“The Lichen Game: an amazing race in finding the missing lichen”**

50th BIOTA Annual National Convention & Scientific Sessions

9-11 April 2015 / Ateneo de Manila University, Quezon City

- **“3.0 ako... ikaw? A career talk for future microbiologists”**


Science Week 2015 Celebration

25 March 2015 / College of Science, UST, Manila

- **“Mentoring the Mentors: a science hands-on laboratory workshop for secondary teachers seminar**

23-25 May 2014 / Philippine Science High School - Bicol Region Campus

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- **“You’ve been tagged! Know your mushrooms and lichens”**

49th BIOTA Annual National Convention and Scientific Sessions

5 April 2014 / University of Baguio, Baguio City

- **“And so we’re talking about SUCCESS”**

Science Week 2014 Celebration

4 February 2014 / College of Science, UST, Manila

- **“A Closer Look at Fungi: diversity and applications”**

30 July 2013 / Imus Institute, Dimasalang Campus, City of Imus, Cavite

- **“A Closer Look at Fungi: diversity and applications”**

19 July 2013 / Juan R. Liwag Memorial High School, Bayanihan, Gapan City, Nueva

Ecija

- **Basic Microbiology Workshop**

10-11 May 2013 / Asia Brewery Inc., Cabuyao, Laguna

- **“The Road Less Travelled: unravelling nature’s little great wonders”**

Imus Institute, Imus, Cavite

- **Exploring our Microbes: discoveries and applications”**

28 October 2009 / Renaissance School of Science and Technology, Morong, Rizal

- **Exploring our Microbes: discoveries and applications”**

19 October 2009 / City of Mandaluyong Science High School, Mandaluyong City

AFFILIATIONS

- *Associate Member*, National Research Council of the Philippines (2011 - present)
- *Member*, Asian Association for Biology Education (2014 - 2016)

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- *Board Member*, Mycological Society of the Philippines (2015 - 2016)
- *Member*, Mycological Society of the Philippines (2008 - present)
- *NCR Representative*, Mycological Society of the Philippines (2014 - 2015)
- *Member*, Philippine Society for Microbiology, Inc. (2008 - present)
- *Member*, Biology Teachers Association of the Philippines, Inc. (2014 - present)