Katherine Yasmin Garcia (chemist and chemistry instructor)

Katherine Yasmin Garcia is a faculty member of the University of Santo Tomas (UST) Department of Chemistry. She received her BS in Chemistry degree from UST in 2014 and her MS degree in Chemistry with Cum Laude honors from the same institution in 2020. After she finished her graduate studies, she was recognized with the St. Albertus Magnus Award for Outstanding Research Work and the St. Antoninus Award for the Best Published Paper.

Her science journey began when Katherine Yasmin Garcia was born in Manila in 1994. Even as a child, she was deeply curious about science. She was fascinated by how things work- why medicines heal, why plants have distinct scents and colors and how simple reactions can create something entirely new. Her real inspiration, however, came from her high school teacher Sonia Annang. Her passion for chemistry was contagious and she sometimes even let Katherine teach the class. That trust and encouragement gave Katherine Yasmin (known to friends as Kat) confidence and sparked her deeper desire to pursue chemistry more seriously.

Chemistry is a very demanding course-long hours in the laboratory, balancing theory with practice and coping with failed experiments. On top of that, Kat's family also faced financial challenges. Thankfully, the Periodic Table Fundraiser, Inc. (PTFI) which was started by the members of the UST Chemistry Alumni Association of North America (USTCAANA), awarded Kat a scholarship, which truly lifted a huge burden and allowed her to focus more on her studies. It was a roller coaster ride, especially since she also took part in extracurricular activities, such as serving on the executive board of the UST Chemical Society, volunteering

at the Red Cross Youth Council–Science Unit, and training with the UST Filipino Martial Arts Club. At the same time, she carried responsibilities at home as the eldest daughter, helping to care for her siblings while juggling commuting and academics. There were moments of doubt on whether she would be able to finish her studies, but these experiences taught her resilience and perseverance.

WORK AFTER COLLEGE

After receiving her BS Chemistry degree in 2014, she had a hard time looking for a job. Many companies looked for experience and as a fresh graduate, she only had the skills she gained from university and research. She persevered and found her first job after passing the Licensure Examination for Chemistry. Her first job was as a QA analyst at Destileria Limtuaco & Co. Inc., a distillery company. Later on, she was transferred to the Laboratory Department where she performed various physico-chemical analyses and method validation using gas chromatography for liquor samples. Kat also served as a Food and Drug Administration (FDA) Regulatory Officer, ensuring that the company complied with both local and international statutory and regulatory requirements. She stayed there for four years and bonded with her co-workers who became like family. It was such a valuable and fulfilling experience that helped shape both her professional and personal growth.

After almost four years of working in industry, Kat realized that she wanted to return to her original plan of pursuing graduate studies. She made the decision to resign from her position at Destileria Limtuaco & Co. Inc. and applied for the DOST-ASTHRDP Scholarship offered by the Department of Science and

Technology. With the experience she had gained, graduate school became less of a requirement and more of a calling-she wanted to deepen her knowledge and contribute more meaningfully to research.

Kat chose to pursue her passion in Organic Chemistry Research, particularly in Natural Product Chemistry. Thankfully, her undergraduate thesis adviser, Dr. Allan Patrick G. Macabeo, still believed in her and welcomed her into his research group—the Laboratory for Organic Reactivity, Discovery, and Synthesis (fondly called the LORDS Research Group). There, Kat worked on the isolation, purification, and structure elucidation of biologically active secondary metabolites from plant and microbial samples. This experience reaffirmed her love for research and inspired her to keep pushing forward in this field.

Right after she received her MS in Chemistry degree, she applied to the Department of Chemistry and was hired as a chemistry instructor. She had always wanted to give back to students. Teaching was her little way of paying forward the support she received throughout her studies.

Kat is enjoying teaching at the Department of Chemistry. It gives her a deep sense of purpose. Standing in front of the class, sharing what she knows, and guiding students through complex concepts is both challenging and fulfilling. The most rewarding moments are when she sees them experience that “AHA” moment; when the lessons suddenly make sense, and they begin to appreciate the beauty of chemistry. Those little sparks of understanding remind her that she was not only teaching content, but also shaping future scientists, problem-solvers, and critical

thinkers. It is in those moments that Kat feels she is giving back, just as her mentors once inspired her, and that makes the journey even more meaningful!

As a Thomasian Chemist, Kat carries with her the motto, *lumina pandit,* or spreading the light, which has always been her guiding principle. Her career goal is to contribute to meaningful research in natural products and health, while also shaping the future through teaching and mentoring. For Kat, teaching is not just about explaining theories or solving problems; it's about nurturing curiosity, building character, and inspiring students to believe that they, too, can make a difference in science and in society.

She hopes that her students are able to see that science is not confined to textbooks or laboratories, but that it can be a force for good in the community. Every class she teaches and every research project she guides is an opportunity to pass on this light, empowering the next generation to shine even brighter. In research, she hopes to discover and contribute knowledge that advances health and well-being, but equally important, she wants to raise scientists who are compassionate, resilient, and driven by purpose.

ACCOMPLISHMENTS AND AWARDS

In her first job at Destileria Limtuaco & Co. Inc, Kat received the "Best Employee" Award for the Laboratory Department for two consecutive years.

She was Cum Laude when she finished her graduate studies in 2020. She was also recognized with the St. Albertus Magnus Award for Outstanding Research Work and the St. Antoninus Award for the Best Published Paper. Two years later, she received a Special Citation from the National Academy of Science and Technology (NAST) Talent Search

for Young Scientists, a prestigious national competition that honors young researchers for their significant contributions to science and technology through original research. Kat presented her work on natural product chemistry, particularly cancer research, titled *"Anti-proliferative and Cytotoxic Cytochalasins from Sparticola triseptata Inhibit Actin Polymerization and Aggregation."*

These milestones would not have been possible without her thesis adviser, her greatest mentor and also her toughest critic, Dr. Allan Patrick G. Macabeo, and her college professors, Dr. Alicia M. Aguinaldo, and Acd. Maribel G. Nonato. Their perseverance, passion, and unwavering commitment to science pushed Kat beyond her limits and inspired her to keep going further than she thought she could.

Kat also received an award from the UST College of Science as one of its top performing instructors. Kat thinks that the recognition truly belongs to her students—because they are the reason she gives her best effort every day. Seeing their growth and their "AHA" moments motivate her to keep improving as a teacher and mentor.

Kat has also been blessed with opportunities to present research at local and international conferences and has received several poster presentation awards and published scientific papers. Each recognition is not just a personal achievement but a reflection of the mentorship, inspiration, and trust that others have placed in her throughout her journey.

WORK- LIFE BALANCE

For Kat, this is her greatest challenge right now. With teaching loads, committee work, research, and family responsibilities, she often finds herself sleep-deprived. There are times when she feels like she is failing to fully address this balance. But she is learning to prioritize tasks, set clearer boundaries, and do her best to keep her professional and personal life separate. It's hard, but she is thankful for her work friends who are always ready to help her-they make the load lighter and remind her that she doesn't have to go through everything alone. With their support, and with continuous effort, Kat believes she will eventually find the right rhythm.

MENTORING WOMEN SCIENTISTS

Mentoring is very important to Kat. She believes even small gestures such as listening, sharing experiences, and offering encouragement, can go a long way in shaping someone's path in science. At present, she mentors students by guiding them in their thesis research, and she feels very proud watching them grow not only as future chemists but also as individuals. It has been such a rewarding experience to help them navigate their research journey.

One of the highlights of their work together was securing a thesis grant from the DOST-PCHRD, which prioritizes health research. For Kat, being a chemist is not just about mastering theories and principles- it is about applying what we know to make meaningful contributions to the community. That is why she always reminds her students that their work has value beyond the laboratory and mentoring them gives Kat the opportunity to guide them toward making an impact in both science and society.

ADVICE TO NEW GRADUATES

Be patient with yourself. Things will not always fall into place right away, but every step, even the failures, has something to teach you. Always give your 100% in everything you do, no matter how small, because those little efforts build the path to bigger opportunities. Most of all, be passionately curious and love what you do, because that is the only way you can truly enjoy the beauty of science. When you persevere with both passion and purpose, every step, whether forward or backward, becomes part of a meaningful journey.

HOW TO GET GIRLS INTERESTED IN SCIENCE

Kat thinks the best way is to show them that science is not distant or intimidating. It is all around us and part of everyday life. Simple hands-on experiments, storytelling, and examples they can relate to, make science exciting and approachable. Most importantly, they need to see women thriving in science like mentors, teachers, and researchers, so they can imagine themselves doing the same. When they see what's possible, curiosity and confidence naturally follow.

HER SCIENCE JOURNEY

1994-Katherine Yasmin Garcia was born in Manila

2010-Graduated from high school

2014-Received her BS in chemistry degree from UST

-Passed the Licensure Examination for Chemistry

-Started working at Destileria Limtuaco & Co. Inc.,

2018- Started her MS degree at UST

2020-Received her MS in Chemistry degree from UST and became a chemistry instructor at the UST Department of Chemistry