

Katherine Marie Marcial Macalma (chemist)



Katherine Marie Marcial Macalma is a chemist at Phillips 66 Los Angeles Refinery located in Wilmington, California. She has been with this company for the past 15 years. Katherine was born and raised in the Philippines and graduated from the University of Santo Tomas in 2005 with a BS degree in Chemistry. She lives with her husband Dexter and three children in Anaheim, California.

Her science journey began when Katherine Marie Marcial was born in Batangas City, Philippines in 1984. She was one of 4 children of Mr. Francisco G. Marcial and Dr. Victoria G. Marcial. She attended Saint Bridget College in Batangas City from Kindergarten to High School. She graduated high school with honors and received the following awards, Outstanding Facilitator, Leadership Award, and



Citation in Sports (she played Softball Varsity for four years). She and her siblings were exposed to chemistry at a young age since her mother taught Chemistry to undergraduate students. She remembered helping check the test papers of her mother's students using an answer key. That early exposure helped her in her Junior High school chemistry class. When she was young her dream was to be a

teacher but when it was time to declare her major in college, her strength in

chemistry convinced her that that was the correct choice. In her freshman year, she learned how versatile a BS Chemistry degree can be. Chemists can teach, start their own Lab and grow it into a business, or work in a Quality Assurance/Quality Control (QA/QC) Laboratory. Her aunt offered to pay her tuition if she shifted her major to nursing but she politely declined the offer. She decided to stay as a Chemistry major and work in a QA/QC Laboratory after graduation.

Chemistry was tough compared to other majors, but she made it through with hard work, dedication, and the support of her classmates and professors. The class was evenly divided in gender; sometimes there were more women than men enrolled. The main challenge she faced in college was balancing the demanding Chemistry course with active participation in extracurricular activities like the Chemical Society Dance Troupe.

WORK AFTER COLLEGE

Kat, as most of her classmates and friends call her, graduated in 2005. After passing the board exam in September of that year, she went to visit her parents who were living in the United States. When she returned to the Philippines, after 5 months in the US, she grabbed her first job opportunity! She worked at ChemPro Analytical Services, Inc. After a few months, she changed job and worked at the Coca-Cola Export Corporation through F.A.S.T. Laboratories, a primary service cooperative which provides laboratory testing and technical consultancy services located in Quezon City, Philippines. At Coca-cola, she performed physico-chemical analyses on the different raw materials of Coca-Cola products and worked with the Innovation & Commercialization team conducting sensory testing and stability & shelf-life analyses.



Then in 2007, she got a job at Pilipinas Shell Petroleum Corporation. At Shell, she performed quality control routine analyses of refinery oil and water samples. She also tested LPG and recycle gas samples.

In 2009, she resigned from her job at Shell and immigrated to the United States to marry her fiancé Dexter Macalma. She and Dexter met in 2006 when she visited her parents in San Diego. Dexter was a U.S. Navy veteran who served actively for eight years followed by several years in the Reserves. They got married in New Jersey and then moved to California afterwards. They have been living in California since then.

LIFE IN THE UNITED STATES

It was fortunate that the Great Recession had ended when Kat started looking for a job in 2009. Barack Obama has just been elected, and people were optimistic! There were a good number of opportunities available, and Kat had a clear idea of what job she wanted. But while doing her job search, she quickly noticed that most of the companies she was interested in preferred candidates with gas



chromatography (GC) experience. To gain that experience she looked for a contract position and easily found one at Phenomenex, Inc., a manufacturing company specializing in GC columns. Her first job in the US was as a Quality Control Laboratory Technician at Phenomenex, Inc. where she evaluated the performance of chromatography columns using High Performance Liquid Chromatography (HPLC) systems, a powerful analytical technique used to separate, identify, and quantify components in a liquid mixture. Although they offered her a permanent position after three months, she chose to return to her career in refinery operations. She changed job and started working for the Phillips 66 Refinery in

Wilmington, California. Phillips 66 also owns the 76 brand which is sold in gas stations found mostly in California and the Conoco brand distributed in gas stations located in the Midwest/East Coast. She has been working in this field for the past 15 years.

Kat is enjoying her current job at Phillips 66 Refinery. While she is one of two Lab Chemists working at the Refinery, she is also the Quality Manager for their

regulated water analyses. She is responsible for conducting internal audits, implementing quality control protocols, and managing the calibration and verification of laboratory instruments to ensure full compliance with accreditation standards. Their laboratory has consistently maintained California Environmental Laboratory Accreditation, most recently achieving successful accreditation in accordance with ISO 17025.

BALANCING WORK AND HOME LIFE

With three children, Kat's life is always hectic, full of activities both at work and at home. When asked how she can juggle both work and home life, she responded "I don't sleep!". Most working mothers can relate to that statement! A few hours of sleep and then you must do the whole thing all over again! She said that it is very challenging to manage a work-life balance but she does it by setting clear boundaries between professional responsibilities and personal time. She prioritized her tasks during work hours to stay productive and efficient, which then allows her to be fully present for her family



after work hours. Kat also makes time for activities that recharge her e.g. spending quality time with her husband and children through food, play, and travels. She volunteers at her children's school, Girl Scouts of Orange County, the UST Chemistry Alumni Association in North America (USTCAANA), the Periodic Table Fundraiser, Inc. (PTFI) and participates in Phillips 66 Women's Network. Open communication, good time management, and self-care help her stay grounded and balanced. Here she is shown having fun at her first Halloween Party at the Phillips 66 Refinery Lab as Elvis!

SUPPORT FOR WOMEN AND GIRLS IN SCIENCE

Kat is passionate about supporting and uplifting fellow women in STEM. She had volunteered in EXP's Women in STEM Career Day at Los Angeles Harbor College as a panelist where she shared her career journey. She believes in empowering fellow women in science through encouragement, knowledge-sharing, and fostering confidence in their skills and leadership potential. We can get more young girls interested in science by making it fun, interactive, and easy to connect with. Let the girls explore through experiments, show them how science applies to everyday life, and introduce them to women who work in STEM. When they see these women scientists succeeding, they will start to believe that they can too. Encouragement, support, and early exposure make a big difference!

ADVICE TO NEW GRADUATES

Her advice for new graduates is to stay curious, be open to learning, and not be afraid to ask questions. Build good habits early-like attention to detail, accountability, and clear communication. And most importantly, believe in your value, even when you're just starting out.

HER SCIENCE JOURNEY

1984 -Katherine Marie Marcial was born in the Philippines in 1984.

2001-Graduated with honors from Saint Bridget College High School

2005- Received her BS in Chemistry from the University of Santo Tomas (UST) in Manila, Philippines.

- Passed the Board Exam for Chemists and went to visit her parents in the US where she eventually met Dexter Macalma

2006 - Returned to the Philippines and got her first job at ChemPro Analytical Services, Inc. in Manila, Philippines

- Changed job and worked at the Coca-cola Export Corporation

2007- Worked at Pilipinas Shell Petroleum Corporation

2009-Immigrated to the United States

Married her fiancé Dexter Macalma in New Jersey and moved to California.

2010 - Worked in her first job in the US at Phenomenex, Inc., a manufacturing company specializing in GC columns

- Changed job and started working at Phillips 66 Los Angeles Refinery in Wilmington, California in June