



MARY JOY MANALIGOD BAUTISTA

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Summary:

Result oriented research and development chemist with 10 years experienced in formulation of industrial and automotive lubricants and high technical experienced Analytical Chemist proficient in developing, testing and validation methods in ISO 17025 accredited metal testing laboratory.

Highlights:

- Formulation of Industrial and automotive lubricants.
- Expert in handling analytical instruments: Optical Emission Spectroscopy, Atomic Absorption Spectrophotometer, UV-Vis Spectrophotometer, Electro Analyzer, Carbon/Sulfur Analyzer, Viscometer, Hydrometer, Flash Point tester, Refractometers and X-ray Fluorescence Spectrometer (XRF), laser Induce Breakdown Spectrometer (LIBS)
- With knowledge of the following instruments: HPLC, Gas Chromatography, FTIR, SEM-EDS, XRD, LCMS/GCMS
- Trained in organic chemistry synthesis.
- Conduct seminar in Good Laboratory Practice, Chemical Spillage Drill and Chemical Safety and Awareness Seminar
- Calibration of instruments and glass wares.
- Using Chemometrics for data analysis **for** statistical and mathematical methods to analytical data to permit maximum collection and extraction of relevant scientific information.
- Project member for Chemometric Analysis of Copper-based Artifacts available in the Philippines to establish the provenance, authentication and ancient technology/metallurgy. (Collaboration with University of Santo Tomas-RCNAS)
- Project leader for Elemental Fingerprinting and Comparative Study of Regulated Steel Bars using Optical Emission Spectrometer and Laser induced Breakdown Spectrometer. (Metals Industry Research and Development –Analysis and Testing Division project)

Accomplishments:

- Formulate lubricants that suit client needs and eventually reduced production cost.
- Head of chemical spillage brigade team for Environment Management System.
- Conduct a good manufacturing practices seminar in metalworking manufacturing steel plants to reduce cost and increased production.
- Technical working group for procurement of new laboratory instruments.
- Internal quality auditor for ISO 17025-laboratory accreditation.
- Safety Officer II accreditation (Training on Basic Occupational Safety and Health Training for the Public Sector)

Education

- **Bachelor of Science in Chemistry**
Saint Mary's University
Bayombong, Nueva Vizcaya, Philippines"
Graduated Cum laude.

Creative Work Award for thesis entitled: "**Quantitative Determination and Verification of pH Level and Sugar Concentration of Carbonated Beverages**"

- **Master of Science in Chemistry**
University of Santo Tomas
España Blvd. Metro Manila

Manuscript Title: "**Elemental Fingerprinting of Lantaka in the National Museum (Philippines) Using Energy Dispersive X-ray Fluorescent Spectrometer**"

- **Data Scientist**
Sparta DOST Scholarship
Coursebank.ph

Work Experience

**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER
DEPARTMENT OF SCIENCE AND TECHNOLOGY**
Bicutan, Taguig, Metro Manila

March 2011 to current

**Internal Quality Auditor
Analytical Laboratory Chemist/Analyst
Science Research Specialist
Researcher/ Project Member**

- Perform chemical analysis using gravimetric/volumetric and instrumental method of analysis of ferrous, nonferrous and powdered metals. Initiated assays, moisture determination, wet chemistry and titrations.
- Employed chromatography, spectroscopy and spectrophotometry techniques.
- Tested samples for various chemical analyses.
- Drafted reports on all test and research results.
- Receive jobs from customers for Physico-chemical laboratory.
- Perform calibration and verification of glassware and balances.
- Operates different kind of instruments such as Atomic Absorption Spectrophotometer, Carbon-Sulfur LECO Analyzer, UV-VIS Spectrophotometer, Electro analyzer and Optical Emission Spectrometer, XRF, FTIR and others.
- Perform preventive maintenance of equipment.
- Maintain quality system of documentation based on ISO 17025, ISO 9001 and ISO 14001.
- Perform duties as head of chemical spillage brigade team based on ISO 14001 standards.
- Participate in evaluation of group's activities, projects and other technical operations.
- Calibrate glassware and balances.
- Perform the verification of testing and calibration instruments and control chart.
- Analyze using ASTM and ISO method of analysis.
- Maintained up-to-date records of product technical data sheet and certificate of

analysis.

- Attend seminars and trainings of MIRDC ISO and Philippine Quality Award (PQA) plans and programs and other trainings related to the operation of the laboratory.
- Technical Working Group for procurement of new instruments in the laboratory.
- Develop alternative analytical procedures.

LINECHEM INDUSTRIAL SUPPLY

Jul 8, 2007 - Feb 28, 2011

Research and Development Chemist/Technical Product Specialist

Paranaque, Metro Manila

- Formulating household and industrial cleaners such as water soluble degreaser, chemical cleaners, dishwashing liquid, detergent and soaps, aluminum cleaner, power degreaser, car shampoo and other janitorial cleaning chemicals.
- Formulation of Industrial lubricants, metalworking fluids, preventive maintenance chemicals and household cleaners.
- Assist with technical sales and technical data product presentation.
- Deals with customer complaints and troubleshooting guide.
- Prepares company profile, technical data and Safety Data Sheet.
- Consulted clients on specific products for developments.

CHEMLINK INTERNATIONAL CORPORATION

Nov 2, 2005 - Jul 7, 2007

Research and Development Chemist

Paranaque, Metro Manila

- Research and development of raw materials for that would eventually be used for production of oils, lubricants like metalworking fluid, industrial lubricant, greases, preventive and maintenance chemicals, industrial cleaning chemicals.
- Initiate programs thru formulation and development of raw materials that would effectively reduce cost of manufacturing while maintaining product quality.
- Preparation of Production Batch Tickets in accordance with the received production orders.
- Product Quality Verification of Production batch including authorization of its delivery and continued processing of defective production batch.
- Documentation of standard formulas used for production.
- Computation of production batch costing.
- Preparation of documents such as Material Certificates or Certificate of Analysis, Material Safety and Data Sheet (MSDS) and Technical Bulletin or Technical Data Sheet (TDS) to be submitted to clients upon their request
- Coordinate with suppliers as to the required specifications of the raw materials including packaging.
- Coordinate with purchasing in-charge on raw material requirements for production and R&D.
- Safekeeping of all confidential documents of the company such as standard formulations, technical bulletin or TDS, MSDS and other documented information which is classified / confidential.
- Assist purchasing in the sourcing of raw materials for development and production.

RAINCHEM INTERNATIONAL, INC. formerly RDLP RAIN COMMERCIAL

Jul 20, 2002 - Nov 5, 2005

Quality Control Chemist /Technical product Specialist/Research and Development Chemist

Paranaque, Metro Manila

Quality Assurance/Quality Control Chemist

- Established Standard Processing Time based on volume per product.
- Established & Implement system for preventive maintenance to minimize if not to eliminate unnecessary downtime due to machine or equipment breakdown.
- Established production capacity per product.
- Improved systems & procedures for material planning & inventory control
- Established a system for monitoring on time delivery to customers, includes reporting on a monthly basis.
- Established, implement, and maintain procedures for the ff;
- Material receiving inspection.
- In-process inspection & testing
- Final/Pre-Delivery inspection
- Control of Non-conformities
- Corrective Action.
- Preventive Action.
- Established specific targets for cost reduction.
- Established, posting and implement of Work Instruction & Work Standard.
- Established, Posting and implement of Quality Plans.
- Established process control system.

Technical Product Specialist

- Providing technical support to clients.
- Coordination of all technical activities on lubricants RND.
- Assist the sales teams in presentation to promote company's product.
- Initiate appropriate corrective actions when there are technical problems encountered by the clients as well as production nonconformities.

Research and Development Chemist

Production Supervisor

- Supervise production of lubricants, chemicals and preventive maintenance chemicals and cleaners.
- Evaluate and research new raw materials, additives and suppliers beneficial for product improvement and product development.
- Process clients sample request through constant coordination with the sales and marketing staff.
- Monitor existing stocks through monthly inventory of existing supplies and products.
- Revise/Create documents needed in ISO certification such as Work Standards, MSDS and Technical Bulletin, Material Planning and Inventory.
- Ensure a systematic and organize approach for product batch monitoring.
- Procure container, raw materials and other chemicals, etc. needed for product manufacturing by means of getting lowest or most affordable price in the market.
- Researching, developing and formulating all kind of lubricants as follows:
 - METALWORKING FLUIDS -Stamping oil, Straight Cutting Oil, Emulsifiable Cutting Oil, Semi-Synthetic Cutting Fluid, Fin Forming Oil, EDM Fluids, Fast Dry Stamping Oils, slow dry stamping Oils, Blanking oils.
 - LUBRICATING OILS - Compressor oil, Hydraulic Oils, Gear Oils, Spindle Oil, Slideway oil, quenching oils, Refrigeration oils
 - PREVENTIVE AND MAINTENANCE CHEMICALS - Water Soluble Degreaser, Safety Solvent Degreaser, Stainless Cleaner, Anti-Rust Oil, Aluminum Cleaner, Declogger, Radiator Coolant
 - JANITORIAL PRODUCTS - liquid hand Soap, dishwashing liquid, Clog and Drain Opener, Toilet Bowl Cleaner and other janitorial products. AUTOMOTIVE OILS - Diesel Engine Oil, Gas engine oil, Automatic Transmission Fluid, Motorcycle oils, Radiator Flush, Rad coolant, Engine Cleaner, degreaser
 - AEROSOLS AND GREASES HOUSEHOLD AND INDUSTRIAL CLEANERS -

Aluminum Cleaner, Water Soluble Degreaser, Floor Concrete degreaser, Paint Stripper, Detergents and dishwashing liquids, car shampoo etc.

Trainings and Seminars

Emission from Combustion Processes and Nonnegative Factorization (NMF)
August 31, 2021
Department of Science and Technology

Bioethics on the use of animals in research: Proper animal handling
July 9, 2021
ITDI-DOST

Atomic and Molecular Spectroscopy Webinar
July 1,6 and 7, 2021
Molave Trading, Inc.

Chemistry in a Legal Framework: Exact Science for Responsible Regulations
April 17, 2021
Integrated Chemist of the Philippines

Finding happiness in the Midst of the Pandemic
April 29, 2021
DOST-PCHRD/ The university of Texas at Austin

Academic Research During a Time of Pandemic
March 23, 2021
University of Santo Tomas

Chemometrics and Clinical Metabolomics
March 19, 2021
DE LaSalle University/ DOST-PCHRD

Elemental Analysis Techniques via Energy X-ray Spectroscopy
February 27, 2021
Filipino Science Hub

Basic Training on laboratory Instruments and Techniques
February 16-17, 2021
Integrated Chemists of the Philippines

Latest Trends in Nanotechnology (Webinar)
September 10, 2020
Institute for Engineering Research and Publication

Soap-Making and Formulation: The Chemist Way
December 4, 2020
Integrated Chemists of the Philippines

Turn Chemical Drawing into Knowledge with ChemDraw & ChemOffice+ Cloud V20
October 29, 2020
PerkinElmer

Recent Development in nanostructured Metals and Alloys
October 25, 2020
Institute for Engineering Research and Publication

Introduction to Nuclear Power & Debunking Myths and Misconceptions on Nuclear Power
October 23, 2020
Philippine Young Generation in Nuclear (PYGN)

Lab in the Time of Covid: How Laboratory Standards and Practices are Challenged in the Covid-Induced New Normal
October 13, 2020
DOST-PCIEERD

Let's use our Coconuts: Part 1: Fats and Fallacies
October 16, 2020
Ateneo De Manila University

Biological and Chemical Safety Awareness Online Seminar
October 13, 2020
ESCO Biosafety Institute

Physics Meet-up: Exploring and Sharing the Wonders of the Universe
September 26, 2020
Mindanao State University

Good Titration Practices
September 24, 2020
Merck

Training on the Latest Characterization Techniques on Nanomaterials
September 16, 2020
Caraga State University

Trend and Approaches in analytical Sciences II
September 12, 2020
DLSU/DOST-PCIEERD

Chemical safety and Hazardous Waste Management
September 10, 2020
DOST-ITDI

Latest Trends in nanotechnology
September 10, 2020
IFERP

Ensuring Data Quality and Addressing Chromatographic Challenges in Routine Pharmaceutical Analysis: Tools for Success
Sept 7, 2020
Select Science

Re-orientation Workshop on Quality Control for Chemical Analysis
September 6, 2019
MIRDC

Indoor Air Science Stealth Pollutants and Transmission of COVID Particles
August 17, 2020
DOST

Technical Drawing (Webinar)
August 13, 2020
MIRDC-DOST

Ask the Expert Webinar: Isotope Fingerprints for Environmental Investigations
August 13, 2020
ThermoFisher Scientific Webinar

Internal Quality Audit (ISO/IEC 17025:2017 Standard)
August 4, 2020
MIRDC DOST

Electronic Balances and the Metrology of Weighing (Webinar)
July 9, 2020
Shimadzu Philippines Corporation

Data Science Seminar 2: Predicting The Future with Artificial Neural Networks
and Deep Learning (Webinar)
July 7, 2020
ITDI-DOST

GC Column Care & Troubleshooting (Webinar)
July 2, 2020
Shimadzu Philippines Incorporated

Virtual LCMS Conference 2020
June 23, 2020
ThermoFisher Scientific Webinar

Echo Seminar on Basic Operation and Maintenance Training Course for
Spectro Arc Optical Emission Spectroscopy
June 14, 2019
MIRDC

Awareness Seminar on ISO/IEC 17025:2017
February 12-13, 2019
MIRDC

Basic Operation and Maintenance for Spectro Arc/Spark OES LMF07
October 23, 2018
MIRDC

Echo Seminar on ISO/IEC 27001:2013 ISMS
June 29, 2018
MIRDC

Echo Seminar on ISO/IEC 17025:2017
June 29, 2018
MIRDC

Asia Sense Conference 2018
International Conference on Sensors
February 21-23, 2018
University of Santo Tomas

Root Cause Analysis
July 20-21, 2017
MIRDC

Values Orientation Workshop
MIRDC
August 10-12, 2016

Training Course on Theory, Basic Operation & Maintenance of Hitachi UH-5300 UV-Visible Spectrophotometer
Dec. 9, 2015

Metals Identification and Selection
MIRDC
August 11-12, 2015

Spectroscopy Seminar
Crimson Hotel, Filinvest
Agilent Technologies, Molave Trading
July 3, 2015

Fundamentals of Weathering Test
MIRDC
March 19, 2015

Productivity Improvement Through 5S Practice
MIRDC
March 6, 2015

Basic Principles and Operation and Safety of Operation of CCX 2000 Advanced Cyclic Corrosion Chamber (17137000)
MIRDC
18 February 2015

Seminar on Oxford CM1730 Coating Thickness Measurement System
Using Eddy Current and Magnetic Induction method
MIRDC
February 3, 2015

Metals Identification and Selection
MIRDC
August 11-12, 2015

Echo-Seminar on Surface Roughness and Hardness Tester
MIRDC
29 July 2014

Echo-Seminar on Detailed Training on the Operations, Preventive Maintenance, Process of Couloscope
MIRDC
31 July 2014

Globally Harmonized System of Classification and labelling of Chemicals (GHS)

MIRDC
July 8, 2014

Chemical Control Banding
MIRDC
July 8, 2014

Training Course on Theory and Basic Operation (Spectro LAV M11)QES
MIRDC
July 31, 2013

Awareness Seminar on Good Laboratory Practice
MIRDC
January 16, 2013

Training on the Basic Operation of Eberbach Electroanalyzer E1000
MIRDC
September 21, 2012

Verification of Common Laboratory Instrument Seminar
July 3-4, 2012
Speaker: Rodnel Tamayo

Handling and Storing Hazardous Waste and Handling Mercury Spillage
MIRDC
May 11, 2012

LCMS(LIQUID CHROMATOGRAPHY-MASS SPECTROPHOTOMETER)
Instrumentation Introduction
Speaker: Nicole Zhang (Thermofisher Scientific)
May 30, 2012

Training Course on the Theory & Basic Operation of the Spectrolav II
QES
April 31, 2012

Seminar on Optical Emission Spectrometry
Speaker: Engr. Gina A. Catalan
April 27, 2012

Seminar on Fire Safety
Speaker: Ramir Celebre
April 12, 2012

Trainer's Training: Effective Presentation Skills
MIRDC
March 26-30, 2012

Philippine Quality Award (PQA) Application Deployment
MIRDC
Speaker: BEST TEAM /MIRDC DOST

Uncertainty of Measurement
DTI-BPS

Speaker: Edzard Ruehe
November 8-9, 2011

Radiation Awareness and Safety
Speaker: Engr. Ricky Catalan
MIRDC/DOST
October 5, 2011

Handling and Storage of Mercury and Other Hazardous Wastes
Speaker: Jemilyn Joy Cristobal and Jim Carlo Morales
MIRDC/DOST
Sept. 26, 2011

Changing the Research and Development Culture at MIRDC
Speaker: Dr. Agustin M. Fudolig,
MIRDC/DOST
Sept. 20, 2011

Seminar Workshop On Productivity Improvement Through 5s Practice
Speaker: Dr. Danilo N. Pilar / MIRDC-DOST
Sept. 20, 2011

ORIENTATION SEMINAR ON ISO 9001:2008
Speaker: Dr. Danilo N. Pilar / MIRDC-DOST
Sept. 12, 2011

METALS IDENTIFICATION AND SELECTION
Speaker: Girlie Millo /MIRDC-DOST
September 8, 2011

INTRODUCTION TO ISO/IEC 17025:2005
Speaker: Engr. Florante catalan
August 10, 2011

AWARENESS SEMINAR ON MIRDC ENVIRONMENTAL MANAGEMENT SYSTEM
(ISO 14001:2004)
Speaker: Engr. Gina Catalan /MIRDC-DOST
July 26, 2011

Echo Seminar On Equipment Troubleshooting Guide
Mirdc Dost Taguig Bicutan
Speaker: GIRLIE MILLO
July 15, 2011

Uncertainty of Measurement
Mirdc Dost Bicutan Taguig
Speaker: Jim Carlo Morales
July 15, 2011

Earthquake Awareness and Safety
MIRDC DOST BICUTAN TAGUIG
Speaker: Nivard V. Unlayao
March 30, 2011

Awareness Seminar on MIRDC ENVIRONMENTAL
MANAGEMENT SYSTM (EMS 14001)

July 26, 2011

MIRDC-DOST Taguig City

GSIS Seminar on Personal Accident Insurance

July 21, 2011

MIRDC-DOST Taguig City

Echo Seminar on "Preventive Maintenance and Troubleshooting of Laboratory
Equipment"

July 15, 2011

MIRDC-DOST Taguig City

Echo Seminar on Measurement of Uncertainty

May 24, 2011

MIRDC-DOST Taguig City

Earthquake Awareness and Safety

March 30, 2011

MIRDC-DOST Taguig City

Seminar on Fire Safety/Fire Drill

MIRDC-DOST Taguig City

March 17, 2011

On-The-Job Training at Standard and Testing Division

ITDI-DOST Taguig City

May 2002- July 2002

Team Building

Work Attitude and Values Enhancement Program

May 2002

Rainchem International

Foreign Training/ Seminar

Detailed Training Course on the Operation & Maintenance of Hitachi UH-5300 UV-
Visible Spectrophotometer

Techcomp, Singapore

Jan. 14-16, 2016

Scholarship Grants

Master of Science in Chemistry

University of Santo Tomas

Under DOST-HRDP Scholarship

Data Scientist

DOST Sparta Scholarship

February 2020 - present

Training and Seminars Conducted / Demonstrated

Good Laboratory Practice
MIRDC/CLS
May 20, 2014

Detailed Training Course on the Operation & Maintenance of Hitachi UH-5300 UV-Visible Spectrophotometer
MIRDC
March 29, 2016

Chemical Spill Response and Clean-Up
February 16, 2017
MIRDC EMS Requirement

Online Chemical Spillage Response and Clean-up
June 26, 2020
MIRDC EMS Requirement

Awards and Certifications

Scientific Poster Award in National Academy of Science and Technology
“Pagtanaw 2050: Agham Tungo Sa Mabuting Kinabukasan”
July 13-14, 2022

Speaker for “Chemical Safety and Awareness Seminar”
October 2022

Keynote Speaker for X-Ray Fluorescence Spectrometry Conference
Kapisanan Kemika ng Pilipinas (Chemical Society of the Philippines)
November 12, 2022

Membership in Professional Societies/Association/Others

 **INTEGRATED CHEMISTS
OF THE PHILIPPINES**
Associate Member (2018-2025)

 **KAPISANANG KIMIKA NG PILIPINAS**
CHEMICAL SOCIETY OF THE PHILIPPINES, INC.
Member – 2022-2025

 **AOAC
INTERNATIONAL
SOUTHEAST ASIA
SECTION**
Association of Official Agricultural Chemists
Member – 2022 - 2023

References

- **Rio S. Pagtalunan, Dr. Tech.**
Department Head, Analysis and Testing Division
MIRDC-DOST, Philippines
837-0431 local 477

- **Fortunato B. Sevilla, III**
Professor Emeritus, University of Sto. Tomas
Head, Department of Analytical Division, Kapisanan ng Kemika ng Pilipinas
Email: fbsevilla@ust.edu.ph

- **Engr. Robert Dela Peña**
President
Rainchem International, Paranaque Philippines
823-1743-44

- **Amancia Magusib**
Deputy Executive Director
Department of Science and Technology, Region II, Cagayan Valley
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- **Engr. Danilo Teodosio**
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