



SARALEEN MAE MALICDEM MANONGSONG

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TEACHING PHILOSOPHY

My day-to-day goal in teaching mathematics is to provide comprehensive, quality and up-to-date content, while encouraging participation through interesting and interactive student-based activities, helping them to appreciate the elegance of proofs, to construct rigorous proofs with strict logic and reasoning, and perform computations in various fields of applications. I believe in the intellectual capacity of every student regardless of age, gender, race, background, religion or ideology, and, hence, I commit in giving every student their right to learning with excellence and equity.

ACADEMIC BACKGROUND

Doctor of Philosophy in Mathematics
University of the Philippines Diliman
June 2012 - January 2020, Graduated

Master of Science in Mathematics
University of the Philippines Diliman
June 2006 - November 2010, Graduated

Bachelor of Science in Mathematics
University of the Philippines Diliman
June 2002 - April 2006, Graduated

Elementary and High School
St. Anthony Nova School Caloocan City
June 1992 - March 2002, Graduated

FIELDS OF SPECIALIZATION

Algebraic Geometry, Robotics, Digital Geometry

THESIS AND DISSERTATION

Dissertation, Solving the Inverse Kinematics of 6R/P Manipulators
Field: Applications of algebraic geometry in robotics

Thesis, On the Hexagonal Grid, the Jordan Curve Theorem and Monotonic Trees
Field: Theoretical aspects of digital geometry

CONFERENCE PROCEEDINGS AND PUBLICATIONS

Inverse Kinematics of Special Six-Joint Manipulators
J. Capco and S.M. Manongsong

Proceedings of the International Conference on Control and Robotics Engineering ICCRE 2022, Niigata, Japan

Implementing HuPf Algorithm for the Inverse Kinematics of General 6R/P Manipulators
J. Capco and S.M. Manongsong

In: England, M., Koepf, W., Sadykov, T., Seiler, W., Vorozhtsov, E. (eds) Computer Algebra in Scientific Computing. CASC 2019. Lecture Notes in Computer Science, vol 11661. Springer, Cham, Aug, 2019.

A new coordinatization of the hexagonal grid and its application to image representation
S.M. Manongsong, E. Tan, F. Nemenzo and J.M. Yap
2012 7th IEEE Conference on Industrial Electronics and Applications
Added to IEEE Xplore on 26 November 2012

CONFERENCE PRESENTATIONS

International

Inverse Kinematics of Special Six-Joint Manipulators

21-23 April 2023, Niigata, Japan

J. Capco and S.M. Manongsong

8th International Conference on Control and Robotics Engineering ICCRE 2022, Niigata, Japan

Implementing HuPf algorithm for the inverse kinematics of general 6R/P manipulators

J. Capco and S.M. Manongsong

26-30 August 2019, *21st International Workshop, CASC 2019, Moscow, Russia*

Implementing HUPF algorithm for 6R/P manipulators

Conference on Geometry: Theory and Applications

3-7 June 2019, Innsbruck, Austria

J. Capco*, M.J. Loquias, S.M. Manongsong and F. Nemenzo

A new coordinatization of the hexagonal grid H^2 and its application to image representation

7th IEEE Conference on Industrial Electronics and Applications

18-20 July 2012, Singapore

S.M. Manongsong*, E. Tan and F. Nemenzo

National

University of the Philippines System General Education Conference

3-4 October 2022, via Zoom

Gearing up from Industrial Revolution 4.0 to 5.0

S.M. Manongsong*

Mathematical Society of the Philippines

27-29 May 2019, General Santos City, South Cotabato

On the inverse kinematics of a robot manipulator

J. Capco, M.J. Loquias, S.M. Manongsong* and F. Nemenzo

Mathematical Society of the Philippines

29-31 May 2017, Legaspi City, Albay

Rigid transformations, dual quaternions and the Study parameters for robot kinematics

S.M. Manongsong*

Mathematical Society of the Philippines
18-19 May 2012, Lipa City, Batangas
Jordan Curve Theorem on the Hexagonal Grid
S.M. Manongsong*, E. Tan and F. Nemenzo

Mathematical Society of the Philippines
20-21 May 2011, UST, Manila
A new coordinatization of the hexagonal grid H^2 and its application to image representation
S.M. Manongsong*, E. Tan and F. Nemenzo

*presenter

PUBLIC TALKS

MSP@50 Lecture Series in Honor of Dr. Fidel Nemenzo
May 6, 2023, via Zoom
HuPf Algorithm for Serial Six-Joint Manipulators

UP System GE Conference
October 4, 2022 via Zoom
Gearing Up from Industrial Revolution 4.0 to 5.0

Research Forum 2022
30 September 2022, Philippine Science Highschool Ilocos Region Campus, via Zoom
Mathematics and Robotics

SINSM
April 6-8 2022, via Zoom UP Baguio
Logical Fallacies and Tautologies,

SINSM
May 6-8 2021, via Zoom UP Baguio
Function and Its Graphs

Breakthroughs in Mathematics
16 April 2021, DMCS, UP Baguio
Formulating the HuPf Algorithm for the Inverse Kinematics of 6R/P Robot Manipulators.

6th DMCS Summer School, Team leader of a research group
1-12 February 2021, DMCS, UP Baguio
Algebraic Geometry and Robot Kinematics

Graduate Colloquium
18 January 2021, DMCS, UP Baguio
Algebraic Geometry and Robot Kinematics

Seminar in Mathematics in Honor of the Legacy of Dr. Evelyn Tan
26 November 2012, UP Diliman, Quezon City
On the hexagonal grid: A new coordinatization of and its application to image representation

5th ICT Research Congress
17-18 February 2012, SLU, Baguio City
The hexagonal grid: concepts and coordinatization

TRAININGS

Local

Robotics and Automation Course with Arduino (Level 1-3), 17 Jan 2024, Guadalupe, Makati

SEMINARS, WORKSHOPS AND CONFERENCE PARTICIPATION

International

ERD2020 Research Opportunities in Austria and European Research Partners in Focus
20 Oct 2020

ERD2020 Boost Your Research Career in Europe
21 Oct 2020

Strategic Publishing for Research Impact
May 4 2021

Demystifying Deep Learning
Sept 16 2021

2nd International Conference on Robotics, Control and Automation, Listener
15-17 September 2017, Kitakyushu, Japan

National

UP System GE Conference
October 4, 2022, via Zoom

Teach Talk STS Edition
8 July 2022

MSP Annual Convention
21, 28 May and 4 June 2022

Teach Talk Ethics Edition
18 Feb 2022

Vacc to School Linangan GE
15 Nov 2022

Anti-sexual harassment code consultation for revision for UP faculty,
14 Nov 2022

Matlab Webinar
9 Sept 2021

Natural Language Processing
19 Aug 2021

Teach Talk: How to teach and manage gen z (Mathematics in the modern world) GE FD 5
Aug 2022

Webinar on AI
1 June 2021

iBEAM Robotics
31 May 2021

Robotics Education and AI Education
22 May 2021

UP GE System GE Conference
11 May 2021

UP GE Conversation
4 May 2021

STS 1 UP GE System GE Conf
27 April 2021

UPSoftware Launch
12 April 2021

DOST Grants
29 March 2021

Robotics training for Teachers
27 Feb 2021

Introduction to the IoT
18 Feb 2021

Helping our student learn
1 Feb 2021

UP System Report
11 Jan 2021

UP Baguio, UP Cebu and UP Visayas CU-wide Dialogue,
26 June 2020

Creating Spin-offs from Univ Innovations,
29 July 2020

MSP Annual Convention 2019
27-29 May 2019

Webinar on Introduction to the Internet of Things, Listener
18 February 2021, Online by Trend Micro

| Local

National Seminar Workshop on Designing Contextualized NSTP
1-4 Mar 2023, Teacher's Camp, Baguio

DMCS Graduate Colloquium, In-House Training and Breakthroughs in Mathematics
2021-2022

RemOAT and Interactive Learning Conversations: Course Pack Ganern
6 Aug 2020, via Zoom

DMCS Webinar on Online Learning
21 July 2020, UP Baguio

DMCS iAADS+ Workshop
13-14 Dec 2019, Baguio

Shapes in Data: An Invitation to Topological Data Analysis, Participant
27 Nov 2020, UP Baguio

Teaching Effectiveness Seminar-Workshop, Participant
28 October 2019, UP Baguio

Mathematics Education: Assessment and ICT Pedagogy, Participant
23 March 2012, SLU, Baguio City

| WRITTEN MODULES, COURSE PACK AND OTHER OUTPUTS

Module for Math 53 with P. Macansantos, R. Pajarillo and J. Viernes, UP Baguio 2021.
Course Pack in Math 122, UP Baguio 2021.
Course Pack in Math 298, UP Baguio 2021.
Course Pack in Math 223, UP Baguio 2022.

| LIST OF COURSES TAUGHT

@UP BAGUIO Math 10, Math 29, Math 53, Math 100, Math 101, CMSC 116, Math 122,
Math 124, Math 197, Math 223, Math 298 (as of Sem 1 AY 2022-23)
@SLU Algebra and Trigonometry, Integral Calculus and Differential Equations

| PUBLIC SERVICE

Organizing Committee Member
Advances in Applied Mathematics, Workshop for Graduate Students
14 February 2024

Evaluator on Mathematical Induction, 2023 District Science and Math Festival
24 October 2023

*Evaluator of Six Research Projects, PSHS Ilocos Region,
18 Nov and 7 Dec 2022*

*Evaluator, Unit Awards Committee, OneUP Grants,
2-10 August 2022*

*Facilitator, National Service Training Program of UP Baguio
1 August 2020 – 31 August 2023*

*Documenter, iAADS Workshop
13-14 December 2019, Vila Silvina, Baguio City*

COMMITTEE WORKS

*Registration Committee Head
Oct 2023, Sab-atan International Conference 2023*

*OASH Faculty Representative, Hearing Pool Member, Council Member
Aug 2019 - Aug 2023*

*Stirring Committee Member, Moderator and Assistant Moderator
Nov 24-26, 2021, Sab-atan International Conference 2021*

*BS Math Program Adviser
Jan 2020 – July 2023*

*MS and PhD Program Adviser
Aug 2023 - present*

*Student Org Adviser of Comsci@up.bag
Aug 2020 - present*

*DMCS Graduate Faculty
2 Sept 2021 - present*

*DAPC member
January 2022 to July 2022*

*Department Secretary
January 2020 to July 2022*

*SRC Board Member
Aug 2021 - July 2022*

*Organizing Committee Member, Faculty Moderator, Facilitator and Lecturer
1-12 Feb 2021, 6th DMCS Summer School Graduate Research*

*Documenter, DMCS iAADS+ Workshop
2021*

MEMBERSHIP IN ORGANIZATIONS

Mathematical Society of the Philippines
Member, 2022

Zaxxun Robotics, Baguio City
Member, Feb 2021 - present

Mathematical Society of the Philippines
Member, 2018-2019

Mathematical Society of the Philippines - CAR, Regions 1 and 2
Member, 2011-2012, 2021-2023

RESEARCH GRANTS RECEIVED

Research Dissemination Grant (RDG), UP Baguio

Office of the Vice Chancellor for Research and Development (OVCRD) outright research grant, 2019-2020.

BASIC INFORMATION

Age: 37 years old
Sex: Female
Social Status: Single
Birthday: 1 December 1985

Address: 40 Bengao, Bakakeng Central, Baguio City
E-mail: smmanongsong@up.edu.ph
F-Contact: 09397248019

Religion: Free Methodist

WORK EXPERIENCE

Assistant Professor
University of the Philippines Baguio
August 2019 - present

Math Instructor
Saint Louis University Baguio
June 2011 - March 2012

Conference Treasurer
Northern Philippine Conference of the Free Methodist Church
Kamuning, Quezon City
April 2005 - April 2010

Math Tutor
St. Pedro Poveda High School, Ortigas, Manila
September 2005 - May 2007

REFERENCES

Prof. Nativity Petallar
APNTS Taytay, Rizal
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Pico, La Trinidad, Benguet
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