



# THE TECHNICAL UNIVERSITY OF KENYA

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NAME: MR POLYCARP OCHIENG MC'OKEYO

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|----------------------|-------------------------------------------------------|
| Faculty:             | ENGINEERING AND THE BUILT ENVIRONMENT                 |
| School:              | Surveying and Geospatial Science                      |
| Department:          | GEOGRAPHY AND SPATIAL SCIENCE                         |
| Current Designation: | Tutorial Fellow, GEOGRAPHY AND SPATIAL SCIENCE (DGSS) |
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| Consultation Hours:  | 8AM-5PM MON - FRI                                     |



## EDUCATION

| LEVEL                      | QUALIFICATION NAME                           | INSTITUTION                           | YEAR |
|----------------------------|----------------------------------------------|---------------------------------------|------|
| Masters of Science (M.Sc.) | GEOINFORMATION SCIENCE AND EARTH OBSERVATION | UNIVERSITY OF TWENTE(The Netherlands) | 2018 |
| Bachelor of Science (BSc)  | GEOGRAPHY                                    | EGERTON UNIVERSITY(Kenya)             | 2013 |

## WORK EXPERIENCE

| PERIOD                           | INSTITUTION                   | POSITION                     |
|----------------------------------|-------------------------------|------------------------------|
| 8th April, 2020 - To Date        | Technical University of Kenya | Tutorial Fellow              |
| 7th Jan, 2014 - 8th April, 2020  | Mc'GIS Kenya Geosystems Ltd.  | Lead Geomatics Consultant    |
| 8th May, 2013 - 30th April, 2020 | Highland Surveyors Ltd.       | Technical Operations Manager |

## GENERAL STATEMENT ON RESEARCH AREAS

Currently, I am keen on Multispectral imaging for monitoring applications; both satellite and UAV. However, I am inclined to explore the potentials of Hyperspectral and SAR imaging using machine learning techniques. Lastly, Geographic Information Systems, Photogrammetry and Digital Mapping remain to be areas of interest.

## CURRENT RESEARCH PROJECTS

|                                                                                                             |                                       |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Band-to-Band Coregistration of Multitemporal Series of Multispectral UAV images for Monitoring Applications | Low Altitude UAV-Based Remote Sensing |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------|

## SELECTED PUBLICATIONS

| TITLE                                                                                                               | LINK TO PUBLICATION YEAR    |      |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------|------|
| Automated Co-registration of Intra-Epoch and Inter-Epoch Series of Multispectral UAV Images for Crop Monitoring     | <a href="#">View online</a> | 2020 |
| Exploring The Potentials of UAV Photogrammetric Point Clouds In Façade Detection and 3D Reconstruction of Buildings | <a href="#">View online</a> | 2022 |

## COURSES TAUGHT

| NAME                                   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PERIOD              |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Geographic Information Systems         | What is the backbone of GIS? What are the scientific tenets that make GIS a scientific process and not an art? What is GIS as a System? What are the components of this System? What data structures make GIS possible? How do we collect and/or measure spatial data? How do we manage this data? How do we analyze it? How do we store and retrieve it? What visualization tools and techniques do we use to make the data consumable?                                                                        | 3-01-2022 - TO-DATE |
| Land Resources                         | What constitutes a resource? What role does land play in enabling other resources? How do we sustainably derive livelihoods from these resources? Do man's activities impact on these resources? How do we avert depletion?                                                                                                                                                                                                                                                                                     | 3-01-2022 - TO-DATE |
| Physical Environment                   | What constitutes our Physical Environment? The Earth as a System. What Constitutes this System? What's the Structure of the Earth? What's the nexus between the spheres that constitute the Earth as we know it. How do the endogenic and exogenic processes on/in Earth shape our Physical Environment? What's the role of man in maintaining the equilibrium within System Earth?                                                                                                                             | 3-01-2022 - TO-DATE |
| Demographic Mapping                    | What is Demography? Why is Demographic Mapping vital? What techniques do we use to map Demographics? Bad Maps vs Good Maps - Maps being used to "lie"                                                                                                                                                                                                                                                                                                                                                           | 3-01-2022 - TO-DATE |
| Introduction to Surveying Technologies | This course introduces the fundamentals of surveying measurements to provide a broad overview of the surveying instrumentation (Total Station, Digital Level), procedures, measurement corrections and reductions, survey datums, and computations that are required to produce a topographical map or a site plan for engineering and design projects. This course covers three main themes: 1) terrestrial-based survey measurements, 2) space-based positioning (Global Positioning System (GPS)) and survey | Sep 2023 - Dec 2023 |

## PROFESSIONAL AFFILIATIONS AND SOCIETIES

| TITLE  | INSTITUTION                                                 |
|--------|-------------------------------------------------------------|
| Member | International Society for Photogrammetry and Remote Sensing |