

**Mariam Joseph Bundala**  
**Curriculum Vitae**

Department of Anthropology and Archaeology, University of Calgary  
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**EDUCATION**

University of Calgary, Calgary, AB	Fall 2017-present	PhD. Archaeology
University of Dar es Salaam, Dar, Tanzania	2015	M. A. Archaeology
University of Dar es Salaam, Dar, Tanzania	2012	B.A. Archaeology (Honors)

**PROFESSIONAL APPOINTMENTS**

**Spring 2023:** Teaching Assistant for Anth 311.01: Primate Behaviour

**Winter 2023:** Graduate Assistant (Non-Teaching): Deferred Exam Coordinator for Anth and DEST courses

**Fall 2022:** Research Assistant-Phytoliths extractions from sample collected during archaeological excavation at EePf-54-Project by Dr. Lindsay Amundsen-Meyer

**Fall 2022:** Teaching Assistant for Arky 321: Archaeology of the Canadian Plains

**Spring 2022:** Teaching Assistant for Arky 325: Ancient Civilizations

**Winter 2022:** Teaching Assistant for Anth 309: Human Evolution

**Winter 2021:** Teaching Assistant for Anth 201.1: Introduction to Biological Anthropology, University of Calgary

**Summer 2020:** Teaching Assistant for Anth 201: Introduction to Biological Anthropology, University of Calgary

**Winter 2020:** Teaching Assistant for Arky 205: People and Ancient Cities, University of Calgary

**Winter 2019:** Teaching Assistant for Arky 201 labs: Introduction to Archaeology, University of Calgary

**Fall 2018:** Teaching Assistant for Arky 201 labs: Introduction to Archaeology, University of Calgary

**2015 to present:** Assistant Lecturer, University of Dar es Salaam

**2013 to 2014:** Tutorial Assistant, University of Dar es Salaam

**RESEARCH GRANTS AND FELLOWSHIPS**

**Spring 2022:** The Leakey Foundation Franklin Mosher Baldwin Fellowship \$15,000 USD

**Spring 2022:** Conference fund grant the Paleontological Scientific Trust (PAST) \$960

**Spring 2021:** The Wenner-Gren Foundation Research Grant \$9,276

**Spring 2020:** The Leakey Foundation Franklin Mosher Baldwin Fellowship \$15,000 USD

**Spring 2020:** The Leakey Foundation Research Funds \$15,000 USD

**Summer 2020:** Research fund grant by the Paleontological Scientific Trust (PAST) \$ 7,950 USD

**Fall 2019:** J.B. Hyne Graduate Scholarship, University of Calgary \$ 2200 CAD

**Spring 2019:** The Leakey Foundation Franklin Mosher Baldwin Fellowship \$15,000 USD

**Spring 2019:** Martha Biggar Anders Memorial Award \$ 2700 CAD, University of Calgary

**Spring 2019:** John C. Carter Endowment for Archaeological Research fund \$ 1700 CAD, University of Calgary

**Spring 2019:** East African Regional Council Award, University of Calgary \$3,500 CA

**Fall 2017- August 2018:** Queen Elizabeth II Diamond Jubilee Scholarship graduate support \$ 18000 CAD, University of Calgary

**2016:** Young African development grant by Paleontological Scientific Trust (PAST) \$ 3910 USD

**2014-15:** Graduate degree support by Paleontological Scientific Trust (PAST) \$ 950 USD

**2013:** Conference/Workshop grant by Paleontological Scientific Trust (PAST) \$850 USD

**2012-2014:** Association for Midwest College and University of Dar es Salaam fellowship \$ 7200 USD

## PUBLICATIONS

### Peer-Reviewed Publications

- i. Mercader, J., Abtosway, M., Bird, R., **Bundala, M.**, Fravreau, J., Inwood, J., Itambu, M., Later, F., Lee, P., Patalano, R., Soto, M., Tucker, L., and Walde, D. (2018). Morphometrics of Starch Granules from Sub-Saharan Plants and the Identification of Ancient Starch. *Frontiers in Earth Science*. 6(146):1-34.
- ii. Mercader, J., Akeju, T., Brown, M., **Bundala, M.**, Collons, M.J., Copeland, L., Crowther, A., Dunfield, P., Henry, A., Inwood, I., Itambu, M., Kim, J., Larter, S., Longo, L., Oldenburg, T., Patalano, R., Smmynaiken, R., Soto, M., Tyler, R., and Xhaufclair, H. (2018). Exaggerated expectations in ancient starch research and the need for new taphonomic and authenticity criteria. *Facets*. Vol 3 (1):777-795.
- iii. Itambu, P.M., Mulinda, A., Bukeny, A., Saanane, C.B., Gibinagwe, S.E., **Bundala, M.** and Bushozi, P.M. (2018). Rock Engraving and Paintings: Rethinking of the Cupules, Gongs and Grinding Hollows of Siuyu and Ughaughu in Singida East (Tanzania). *Journal of Geoscience and Environment Protection*. 6:1-21.
- iv. Mercader, J., Clarke, S., **Bundala, M.**, Favreau, J., Inwood, J., Itambu, M., Later, F., Lee, P., Lewiski-McQuaid, G, Mollel, N., Mwambwiga, A., Patalano, P., Soto, M., Tucker, L., and D.Walde, D. (2019). Soil and plant phytoliths from the Acacia-Commiphora mosaics at Oldupai Gorge (Tanzania). *PeerJ*, 7, e8211.

### Non-Peer-Reviewed Publications

- Bundala, M, and Ranhorn, K. (In publication 2023). Tanzanian women in archaeology. In Lopez Varela, S.L (Ed). *Women in Archaeology: Advancing Knowledge and Human Understanding Worldwide*. Springer Nature Switzerland AG.

## SELECTED CONFERENCE PRESENTATIONS

- **Bundala, M.**, Charles, S., Kinyanjui, R., Saanane, C, Kooyman, B., and Cote, S. (2023). *Phytolith analysis from the Middle Pleistocene sites from the Manyara Beds, Northern Tanzania*. In Society of Africanist Archaeologists: 26<sup>th</sup> Biannual Meeting. Texas, Houston, United States of America. June 1-4.
- **Bundala, M.**, Kinyanjui, R., Saanane, C, Kooyman, B., and Cote, S. (2022). *Phytolith production in plants from Makuyuni, Northern Tanzania*. The East African Association of Palaeoanthropology and Palaeontology: 7<sup>th</sup>Biannual Conference. Arusha, Tanzania. July 31<sup>st</sup> -August 4<sup>th</sup>.
- **Bundala, M.**, Kinyanjui, R., Saanane, C, and Cote, S. (2019). *A preliminary phytolith analysis of the Middle Pleistocene sites from the Manyara Beds, Northern Tanzania*: The Canadian Association for Physical Anthropology: 47<sup>th</sup>Annual Meeting. Alberta, Canada. October 23<sup>rd</sup> -26<sup>th</sup>.
- **Bundala, M.**, Saanane, C, and Cote, S. (2019). *Further Insight on the Paleoecology of the Manyara Beds, Northern Tanzania*. The East African Association of Palaeoanthropology and Palaeontology: 7<sup>th</sup>Biannual Conference. Nairobi, Kenya. August 1<sup>st</sup>-5<sup>th</sup>.

- Itambu, M., Mwambwiga, A., Larter, F., **Bundala, M.**, et al. (2018). “*Modern Soil Phytoliths from Arusha Ecoregion, Tanzania.*” Society of Africanist Archaeologists: 24<sup>th</sup> Biannual Meeting. Toronto, Canada. June 18-22.
- **Bundala, M.**, Patalano, R., Abtosway, Favreau, J., et al. (2018). *Phytolith Production in Modern Plants from Olduvai Gorge, Tanzania.* Society of Africanist Archaeologists: 24<sup>th</sup> Biannual Meeting. Toronto, Canada. June 18-22.
- Soto, M., Patalano, P., Abtosway, M., Bird, W.R., **Bundala, M.**, Bushozi, P., Clarke, S., et al., (2018). *Experimental protocol for decontaminating Sub-Saharan dental calculus.* Society of Africanist Archaeologists: 24<sup>th</sup> Biannual Meeting. Toronto, Canada. June 18-22.
- Turker, L, Inwood, J., Patalano, R., Abtosway, M., **Mariam Bundala**, et al. (2018). *Bioavailable Strontium from Plants and Diagenesis of Dental Tissues at Olduvai Gorge, Tanzania.* Society of Africanist Archaeologists 24<sup>th</sup> Biannual Meeting. Toronto, Canada. June 18-22.
- Mercader, J., Favreau, F., Abtosway, M., Bird, W.R., **Bundala, M.**, Bushozi, P., et al., (2018). *Microbotanical proxies.* Society of Africanist Archaeologists 24<sup>th</sup> Biannual Meeting. Toronto, Canada. June 18-22.
- Favreau, J., Abtosway, M., Bird, W.R., **Mariam Bundala**, Bushozi, P., Clarke, S., et al., (2018). *Sourcing Lithic Raw Materials through Petrography in the Greater Serengeti Region.* Society of Africanist Archaeologists 24<sup>th</sup> Biannual Meeting. Toronto, Canada. June 18-22.
- Itambu, M., **Bundala, M.**, Mercader, J., et al., (2017). *Bed II Phytolith landscapes at Olduvai Gorge (Tanzania).* Biannual Meeting of the Eastern Africa Association for Paleontology and Paleoanthropology (EAPP); Ethiopia.
- Bundala, M, & Saanane, C. (2015). *Investigation on surface modification of fossil fauna remains from Makuyuni 4 site, Lower Manyara Beds.* Biannual Meeting of the Eastern Africa Association for Paleontology and Paleoanthropology (EAAPP); Dar es Salaam.

#### INVITED WORKSHOP PRESENTATIONS

- **Winter 2023:** Visiting Speaker Series: Strömberg lab, Department of Paleobotany, University of Washington, Seattle-United States of America  
“Middle Pleistocene paleoenvironmental reconstruction through phytolith analysis at the Manyara Beds, northern Tanzania”.
- **Summer 2022:** Participating in the International Continental Scientific Drilling Program (ICDP) workshop on Lake Victoria, the Lake Victoria Drill Project (LVDP) held in Dar es Salaam, Tanzania. July 25<sup>th</sup> -27<sup>th</sup>. organized by Melissa Berke and Dan Peppe.
- Bundala, M. (2017). *Microbotanical Controls from Faunal Calculi in the Arusha Region.* Paper presented in the Ancient Starch Research: Goals, Pitfalls, Possibilities Workshop by Stone Tools Diet and Sociality project (University of Calgary). Zanzibar, Tanzania.
- **Bundala, M** and Saanane, C. (2016). *Investigation on surface modification of fossil fauna remains from Makuyuni 4 site, lower Manyara (New insight for early hominids activities).* Human Palaeology and Ecospace seminar, Seckenberg Institute, Frankfurt, German.

#### COMMUNITY OUTREACH PRESENTATIONS

- Bundala, M. (2018). *Contribution of Tanzania towards the Understanding of Human Evolution. A talk presented at Centennial High School.* Calgary. Canada. November 20.

### **TEACHING EXPERIENCE**

#### **University of Calgary- 2018-2019**

- Archaeology 201: Introduction to Archaeology laboratory component (2 times)

#### **University of Dar es Salaam- Assistant Lecturer 2015-2017**

- Introduction to Archival Studies (2 times)
- History of Heritage Conservation in Africa (2 times)
- Curation and Conservation of Fauna materials (2 times)
- African Civilization (2 times)
- Archaeology of Tanzania (1 time)

### **LABORATORY EXPERIENCES**

**October 2021-present:** Phytolith analyst at the Paleoecology and Paleobotanical laboratory (The Kenyan National Museums, Nairobi Kenya) under the supervision of Dr. Rahab Kinyanjui

**March-June 2021:** Phytolith analyst at the Paleoecology and Paleobotanical laboratory (The Kenyan National Museums, Nairobi Kenya) under the supervision of Dr. Rahab Kinyanjui

**August 2019:** Phytolith analyst at the Paleoecology and Paleobotanical laboratory (The Kenyan National Museums, Nairobi Kenya) under the supervision of Dr. Rahab Kinyanjui

**September 2017 to December 2018:** Phytolith Analyst at the Analytical Laboratory for Hominid Evolutionary Ecology (University of Calgary) under the supervision of Dr. Julio Mercader

#### **Skills:**

- Extraction of phytoliths from modern Plants, soils and ancient soils from Olduvai Gorge, Ancient soils from Mumba rock Shelter and Manyara Beds in Northern Tanzania
- Follows stringent laboratory protocols to control contamination and utilizes a stereo microscope to systematically identify and count phytoliths and track from soils and plants, permitting theorizing into paleoenvironment, hominin behavior and diets.

### **FIELD WORK**

#### **Doctoral Research**

- 2021 detailed fieldwork at the Manyara Beds followed by lab work initially at the National Museums of Kenya, Nairobi Kenya, and at the University of Calgary Fall 2021 to present at the Paleobotany (chemical analysis of soils, sediments, and plants) and the Ancient DNA lab for residue extractions because of clean room with HEPA filtered air.
- 2019 preliminary field season in summer 2019.

#### **Pre-doctoral Research.**

- 2017- Raw material sourcing in Eyasi region, Core drilling at Eyasi basin and Excavation at Mumba rock shelter, Northern Tanzania (July 18- August 25)
- 2017- Participant in petrographic sampling at Naibor Soit Hill and archaeological excavation at Jumas Korongo site Olduvai Gorge, Northern Tanzania (June 22- July 05)
- 2016-Archaeological excavation at David's Korongo and Frida Leakey's Korongo North (FLKN), Olduvai Gorge, Northern Tanzania (June 24-July 5)
- 2016- Documenting new Rock Art and Late Stone Age sites at Siuyu village, Singida region, Central Tanzania.
- 2015- Archaeological Excavation and raw material sourcing at Isimila Stone Age site, Southern Tanzania (July 10-September 29)

- 2014- Archaeological excavation and raw material sourcing to infer early human land use at Makuyuni Paleoanthropological and Paleontological site, Northern Tanzania (October- November)
- 2013- Archaeological excavation and raw material sourcing to infer early human land use at Makuyuni Paleoanthropological and Paleontological site, Northern Tanzania (July-August 2013)
- Cultural Heritage Impact Assessment in Lindi and Kilwa districts, tender by State Oil Company (October 2012)
- 2012- Archaeological excavation and documentation of Pastoral Neolithic sites at Engaruka basin, Tarangire and Babati in Northern Tanzania (July-August)
- 2011-Fieldschool training at Bagamoyo Historical town, excavation, and survey to relocate Historical tunnels at Ngome Kongwe site.
- 2010-Fieldschool training at Olduvai Gorge, excavation and survey at Ndutu Beds, and Long Phillips korongo

### **LOCAL COMMUNITIES INVOLVEMENT AND OUTREACHING**

Implement conservation plan

- July 2016 and July 2017-Maasai communities at Olduvai Gorge, Tanzania

Mobilizing local community groups based on their cultural backgrounds, gender, age, knowledge, and landscape use to raise awareness on cultural heritage resources, values, and protection

- August 2016: Siuyu Secondary School, Siuyu village, Singida region, Tanzania
- July 2013: Lowasa Secondary School, Makuyuni village, northern Tanzania
- October 2012: Kilwa and Lindi region, southern Tanzania

### **PROFESSIONAL TRAINING**

#### **Certificates**

- January 5<sup>th</sup> -7<sup>th</sup> 2021: Consultancy training on project Execution- University of Dar es Salaam (facilitators: Dr. Elikana Kalumanga & Prof. Sosovele)

### **ADDITIONAL TRAINING & VISITING STUDENT INTERNSHIP**

- **January 2023:** University of Washington, International Student Internship and Training program (Exchange Visitor Program) at the Strömberg lab  
Additional training on (i) phytoliths extraction methods, (ii) phytoliths classification and interpretive scheme, and (iii) quantification models and statistical techniques for phytolith analysis  
Supervised by Dr. Caroline Strömberg.

### **PROFESSIONAL ORGANIZATION MEMBERSHIP**

- 2021-Present: INQUA-PALCOM project\_ Mapping Ancient Africa- Climate, Vegetation and Humans
- 2019-Present: The Canadian Association of Physical Anthropology
- 2013-Present: Eastern African Association of Paleoanthropology and Paleontology
- 2012: Vice Chairperson of the Dar es Salaam University Archaeology Students Association

**REFERENCES:** Up on request