

# Short Curriculum vitae

Name-Thomas Wetere Tulu

Birth Date-October 02, 1997

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## Education

PhD degree in Operations Research & Cybernetics, Chinese Academy of Sciences, 2019

PhD degree in Mathematics, Harbin Institute of Technology, 2017

Master of Science in Computational Data Science, ICTP, Trieste, Italy and Addis Ababa University, 2011.

Bachelor of Science in Mathematics, Mekelle University, Ethiopia, 2006

## Work Experience

1. Postdoctoral Research Fellow, **Tsinghua University** as of June 2024 till now.  
[ Includes teaching duty in English and Research]
2. Postdoctoral Research Fellow, **City University of Hong Kong** as of April 2022 till August 2023. (**Project Leader: Machine Learning-based Prediction of COVID-19 Diagnosis Focusing on Immunity and Metabolic Biomarkers**).
3. Postdoctoral Research Fellow, **University of Macau**, January 2020 till January 2022.
4. Assistant Professor, **Addis Ababa University**, Computational Data Science program as of July 2018 to October 2024.
5. Assistant Researcher, **City University of New York**, Oct. 2018 to January 2019.
6. Assistant Researcher, **China CDC** as of Oct 2017 - Sep 2018.
7. Staff (GAI, GAII and Lecturer) and Researcher Mekelle University, Department of Mathematics as of 2006 till 2014.

8. Scheduling and Programming officer of Mekelle University (2007 to 2009)
9. Head Department of Mathematics(Acting), Mekelle University (2007)

## Teaching experience

I taught/am teaching different Mathematics courses for both undergraduate and Post Graduate students of Health sciences, Engineering, Computer science, Biology, Chemistry, Earth Science, Informatics and Mathematics.

## Computer skill

MATLAB, FORTRAN, C++, JAVA, VB, MATHEMATICA, SPSS, ANOVA, LINUX, HPC (High performance computing)

## Publication

1. **Thomas Wetere Tulu, Zunyou WU, Rongling WU:** *Machine Learning and Optimization models of complex systems: Nature Communications: under review, 2024.*
2. **Thomas Wetere Tulu, Tsz Kin Wan, Chun Hei Wu, Ching Long Chan, Peter Yat Ming Woo, Cee Zhung Steven Tseng, Asmir Vodencarevic, Cristina Menni , Kei Hang Katie Chan:**Machine Learning-Based Prediction of COVID-19 Mortality Using Immunological and Metabolic Biomarkers: *BMC Digital Health, 2023*
3. **Yiming Du, Zhuotian Li, Qian He, Thomas Wetere Tulu, Kei Hang Katie Chan, Lin Wang, Sen Pei, Zhanwei Du, Xiao-Ke Xu\* and Xiao Fan Liu\*:** A pre-trained deep learning model for predicting cross-immunity between drifted strains of Influenza A/H3N2: *IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS, 2023*
4. **Tsz Kin Wan, Rui Xuan Huang, Thomas Wetere Tulu, Jun Dong Liu, Asmir Vodencarevic, Chi Wah Wong, Kei Hang Katie Chan:** Identifying predictors of COVID-19 mortality using machine learning: *Life Journal, 2022.*

5. **Thomas, Ieng Tak Leong, Zunyou Wu:** Modeling and Predicting Corona Contagion Dynamics in China, USA, Brazil & Ethiopia”: *Science Journal of Applied Mathematics and Statistics*” Vol. 8, No. 5, 2020, pp. 67-72, 2020.
6. **Thomas, Tian B:** Mathematical Modeling, analysis and Simulation of Epidemics. *Bulletin of Iranian Mathematical society, Volume 43 issue 3, 2017(SCI)*.
7. **Thomas, Tilahun:** Air Traffic scheduling and Network mgt. *Lambert Academic Publishing, 2012*.
8. **Thomas, Tian B, Zunyou Wu :**Modeling the effects of quarantine and vaccination on Ebola Epidemics, *Advances in difference equations, Springer Journal, 2017(SCI)*
9. **Thomas, Tian B, Zunyou Wu:** Mathematical Modeling, analysis and Markov Chain Monte Carlo Simulation of Ebola Epidemics. *Results in Physics, Volume 7, page 962-968, 2017 (SCI)*
10. **Thomas, Tilahun:** Mathematical Modeling and Simulation based road Traffic flow analysis, 2014.
11. **Thomas, Guo Tiande:** Optimal Control and Fingerprint Image Processing in ATM Banking”: *International Journal of Engineering Research and Applications*” Volume- 06, Issue-04, 2019.
12. **Thomas, Guo Tiande:** Optimization Modeling and Algorithms for Fingerprint Image Processing in ATM Banking. *International Journal of Mathematics Trends and Technology*”, Volume 64, issue 4, 2019.
13. **Thomas, Guo Tiande:** A semi-flexible attracting-segment model of three-dimensional polymer collapse. *Statistical Mechanics and its Applications*
14. **Thomas, Tian B:** Mathematical Modeling, analysis and Simulation of Epidemics. *Bulletin of Iranian Mathematical society, Volume 43 issue 3, 2017(SCI)*.

## **Awards and Scholarship**

1. City University of Hong Kong Postdoctoral Scholarship winner, 2022
2. UM Macao Research Fellowship & UM Research Associateship UM Macao Talent programme winner, University of Macau, 2020
3. Talented Young Scientist Program (TYSP) winner, 2018
4. TUBITAK Research Fellowship winner, Yildiz Technical University, 2017
5. Outstanding International Student award, Harbin Institute of Technology, 2017
6. Addis Ababa University M.Sc. Scholarship winner, 2009

## **Research Interest**

Machine Learning, Biomathematics, Engineering Mathematics, Numerical Differential Equations, Epidemiology, Applied Analysis of PDE, Bioinformatics, Biostatistics, Applied Stochastic Methods, Scientific Computing, Image Processing, Analysis, Optimization and High-Performance Computing

## **International Conference**

1. The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA, 2016
2. International conference on Combinatorial and Additive Number Theory (CANT 2016), City University of New York, New York, USA, 2016
3. International Conference in Analysis and Probability in honour of Jean-pierre Kahne ,Orsay and Paris, France, 2016
4. International conference on Applied Mathematics, Italy, 2016
5. International conference on PDE and Complex Analysis, AAU, 2012
6. International conference on Quantitative finance, Peking University, 2015
8. International R-conference, Tsinghua University, Beijing, China, 2017.

## **References:**

1. Tian Boping, Professor, Department of Mathematics, Harbin Institute of Technology  
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2. Tefera Worku, Addis Ababa University  
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