

Fikreselam Gared Mengistu (PhD)

Associate Professor at Bahir Dar University

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Summary Fikreselam Gared is a research engineer in the field of communication system engineering specifically on wireless communication systems. My expertise areas are information theory and channel coding and their applications, spectrum detection, cognitive radio, wireless networks, MIMO systems and others. Participating in University- Industry linkage research projects in which mostly telecommunication companies. Apart from the education and research, I am also responsible in collaboratively work in multidisciplinary settings, taking care of team work, reviewing journals and proceedings, and supervision of graduate students.

Education **1. National Taiwan University of Science and Technology (NTUST),** Taipei, Taiwan

Ph.D. in Communication Engineering, Electrical Engineering, : July 2014

- Dissertation Topic: *Robust Decoding Schemes for Coded Transmission Through a Markov Gaussian Channel*
- Advisors: Prof. Yung-Hsiang S. Han and Prof. Der-Feng Tseng

2. Addis Ababa University Institute of Technology, Addis Ababa, Ethiopia

M.Sc.in Communication Engineering, Nov. 2011

- Thesis Topic: *Performance Evaluation on Transmitter Detection Techniques for Cognitive Radio*
- Advisors: Prof. Mohammed Abdo

3. Bahir Dar University Institute of Technology, Bahir Dar, Ethiopia

B.Sc.in Electrical Engineering, July 2006

Work Experience

1. Visiting Professor at University of Chandigarh, Chandigarh, India

- **Research collaboration and Course offered for MSc Students**
2017 onwards
 - Offering courses for graduate students
 - Supervising graduate students

2. Bahir Dar University, Bahir Dar, Ethiopia

- **Associate professor** Nov.28/2019 — To date
 - Teaching Courses like: Advanced communication systems, Stochastic Process, wireless communication systems, communication systems, Digital Signal Processing, Information theory and coding, advanced antenna systems, advanced research methodology.
 - Advised postgraduate students on areas like:- 5G communication systems, Propagation model, LTE systems, Antenna design, channel coding, Cognitive radio and others
 - Reviewing Journal and conference articles.
 - Conducting researches with MSc Students
 - Curriculum committee in organizing curriculum of PhD in communication engineering.
- **Assistant professor** Aug.07/2014 — Nov.27/2019
 - Teaching Courses like: Advanced communication systems, Stochastic Process, wireless communication systems, communication systems, Digital Signal Processing, Information theory and coding, advanced antenna systems, advanced research methodology.
 - Advised undergraduate and postgraduate students on wireless communication systems
 - Reviewing Journal and conference articles.
 - Conducting researches with MSc Students
- **Lecturer** Nov.27/2011 – Aug.24/2011
 - Courses taught: Introduction to communication systems, digital communication systems, signals and systems, digital signal processing, digital logic design, power system I and II, and others.
 - Advised/supervised 6 undergraduate projects on cellular communication, Efficient spectrum utilization and radio propagations.
- **Assistant Lecturer** July 08/2007 — Oct.10/2008
 - Courses taught: signals and systems and digital logic design.

- **Graduate assistant II** July 09/2006 — July 07/2007
Courses taught: signals and systems, assisted the lecturer in delivering courses and delivered laboratory classes for communication systems.
- 3. **Bole Printing Enterprise, Addis Ababa, Ethiopia**
- **Senior Electrician** January 2001 — November 2002
- 4. **Ethiopia Telecommunication Corporation, Ethiopia**
- **Transmission Technician** March 1999 — January 2001

Leadership experiences

Bahir Dar University, Bahir Dar, Ethiopia

- Vice chairman of Ethiopia Red Cross Society for Amhara Regional Branch board (March 2022- till now)
- Vice president for information and strategic communication of Bahir Dar University (Jan.17/2015– Sep. 01/2017)
- Board member of Ethiopia red cross society for Amhara Regional Branch
- Vice President of Taiwan alumni of Ethiopian Graduates
- Research and Publication committee Member of Bahir Dar Institute of technology (December 2015- to date)
- Chair holder of communication system engineering (Aug.25/2014– Fe. 07/2015)
- Academic commission member of faculty of Electrical and computer Engineering (Sep 2007– July 2008)
- President of Bahir Dar University students union (Sep 2004– July 2005)

Committee Work

Bahir Dar University, Bahir Dar, Ethiopia

- Advisory committee of BiT Strategic Plan
- Bahir Dar Institute of Technology(BiT) Promotion Committee
- Faculty Promotion committee Chair person
- BiT Graduate council committee
- BIT research and Publication committee member
- Faculty graduate committee (FGC) chair person
- Faculty Post Graduate Program committee member
- PhD in communication Engineering curriculum development committee chairperson
- Organizing committee of 7th ICAST-2019
- Organizing committee of 6th ICAST-2018
- Organizing committee of 3rd ICAST-2015
- Infrastructure and facility organizing committee of 7th ICAST-2019
- Committee Member of electrical equipment quality assurance.

Collaborative Research Grant

- Performance and Analytical Study on Linear/ Non-linear effects and ist Various performance parameters for Futuristic High Bit Rate Hybrid Optical Network Transmission System in Ethiopia, Accomplished project.
- The role of Innovative and Intelligence Technologies in Building Smart Cities and Enhanced pilot Rural Villages: For the Case of Ethiopia, Submitted Project.

Publication Lists

1. Fikreselam Gared and Fikrte Belay "Performance Analysis of BS-NOMA for mmWave Communication Using Lens Antenna Array with Estimated Beamspace Channel." *Accepted Cogent Engineering, 2022* .
2. Esubalew M. Zeleke, Henock M. Melaku, and Fikreselam G. Mengistu "Efficient Intrusion Detection System for SDN Orchestrated Internet of Things." *Journal of Computer Networks and Communications, Hindawi*, 29 November. 2021. <https://doi.org/10.1155/2021/5593214>
3. Fikreselam Gared, and Gizachew Worku. "Performance analysis of joint transmit antenna selection and user scheduling for massive MIMO systems." *Cogent Engineering* 8.1 (2021): 1974669.
4. Channamallikarjuna M., Fikreselam G., and Lijaddis G. "Automatic Plant Leaf Disease Detection and Auto-Medicine", *Springer Nature Switzerland AG*, 2021.
5. Fikreselam Gared, Yosef Birhanu Malede, and Amare Kassaw Yimer. "Performance Analysis of Hybrid Beamforming Techniques in Large MU MIMO Systems." In *International Conference on Advances of Science and Technology*, pp. 153-172. Springer, Cham, 2021.
6. Tsion Yigzaw, Fikreselam Gared and Amare Kassaw Yimer , Performance Analysis of Adaptive Filter and Machine Learning Algorithms for Heart Rate Estimation Using PPG Signal *Accepted in International Conference on Information and Communication Technology for Development for Africa, IEEE*, 2021.
7. Tesfahunegn Minwuyelet, Ayalew Belay Habtie, and Fikreselam Gared Mengistu. "Design and Development of an Autonomous Smart Stick Framework for Assisting Visually Impaired People." In *International Conference on Advances of Science and Technology*, pp. 586-602. Springer, Cham, 2021.
8. Hagos Tesfahun, Tesfahunegn Minwuyelet Mengistu, Million Mesheha Beyene, and Fikreselam Gared Mengistu. "OCR System for the Recognition of Ethiopic Real-Life Documents." In *International Conference*

- on *Advances of Science and Technology*, pp. 559-574. Springer, Cham, 2021.
9. Muluneh, Solomon, and Fikreselam Gared. "Performance comparison of inverted L and F-shape dual band microstrip antenna." *Journal of EEA*, 38.1 (2020): 65-74.
 10. Fikreselam Gared and Girma Gebeyehu. "Impulsive Noise Mitigation Using Hybrid Nonlinear Preprocessor and Turbo Code in OFDM-PLC system." *In International Conference on Advances of Science and Technology*, Springer, 2020.
 11. Amare Kassaw, Fikreaddis Tazeb, Fikreselam Gared, and Dereje Hailemariam. "Performance Analysis of Multicarrier Modulation Techniques for Next Generation Networks." *In International Conference on Advances of Science and Technology*, pp. 184-199. Springer, Cham, 2020.
 12. Alemayehu, Bekele, and Fikreselam Gared. "Inter cell interference modeling and analysis in long term evolution (LTE)." *Ethiopian Journal of Science and Technology*, 12.2 (2019): 107-123.
 13. Ali Mohammed, and Fikreselam Gared. "Energy optimization of wireless sensor network using neuro-fuzzy algorithms." *Ethiopian Journal of Science and Technology*, 12.2 (2019): 167-183.
 14. Birhanu, Hiwot, Yihenew Wondie, and Fikreselam Gared. "Spectrum Sensing Using Adaptive Threshold Based Energy Detection for LTE Systems." *In International Conference on Advances of Science and Technology*, pp. 473-491. Springer, 2018.
 15. M. A. Mulatu, L.-C. Chang, Y. S. Han, Fikreselam G. Mengistu, and D.-F. Tseng, "Threshold-Based Cooperative Communication of Energy Harvesting Active Networked Tags," *Int. J. Ad Hoc and Ubiquitous Computing*, Vol.24, No. 4, 2017.
 16. Fikreselam Gared, Mohammed Abdo, "Performance Comparison of the Standard Transmitter Energy Detector and an Enhanced Energy Detector Techniques" *International Journal of Networks and Communications*, 6(3): 39-48 DOI: 10.5923/j.ijnc.20160603.01, 2016.
 17. Fikreselam G. Mengistu, D.-F. Tseng, Y. S. Han, M. A. Mulatu, and L.-C. Chang, "A Robust Decoding Scheme for Convolutionally Coded Transmission Through a Markov Gaussian Channel," *IEEE Trans. on Vehicular Technology*, pp. 4344-4356, November, 2014.
 18. D.-F. Tseng, Fikreselam G. Mengistu, Y. S. Han, M. A. Mulatu, L.-C. Chang, and T.-R. Tsai, "Robust Turbo Decoding in a Markov

Gaussian Channel,” *IEEE Wireless Communications Letters*, pp. 633-636, December, 2014.

19. Fikreselam Gared and Getaneh :”Adaptive Modulation and Coding Rate Using Adaptive Neuro-fuzzy Inference System” *Submitted to International Conference on Advances of Science and Technology, April 2022.*

Honors Awards and certificates

- Distinguished Graduate of MSc. in Communication Engineering.
- Distinguished Graduate of B.Sc. in Electrical Engineering.
- Recognition of great accomplishment from Bahirdar University for the role in the curriculum development of PhD in Communication Engineering.
- Keynote speaker of international conference on modern electronics device and communication systems organized by Greater Nodia, India with Springer.

Computer Skill

- Programming Languages and Applications: C, C++, MATLAB, R
- Document Processor Software: L^AT_EX, LyX.
- Operating Systems: Windows, Mac OS

Social Skills

- I am equally comfortable working independently or contributing to a team success.
- Embrace diversity and get energized by working in multicultural environment.
- Good communication and leadership skill gained through experience in different positions and committee membership.
- Competent in living and working with other people having different cultures and languages while learning their culture and language fast gained through work experience.

Hobbies

Swimming, football and biking