

# Curriculum Vitae

*Dr. Mohamed Abdurazak Elalem*

أ.د. محمد عبد الرزاق العالم  
(Professor)

Elmergib University  
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## Personal

- Born on November 1967, *Mesallata*, Libya
- Citizenship: Libyan
- Address: Tajoura, Tripoli.

## Education

- Ph.D. in Electrical and Computer Engineering, Ryerson University, Toronto, Canada, May, 2013.
- M.Sc, in Electrical and Electronic Engineering, Telecommunication, University of Tripoli, Libya, Oct., 2006.
- Course training in communication switches and solutions at *Mitel company, UK, Canada*, 2005.
- BSc., Electrical and Electronic Engineering, Tripoli University, Libya, Mar. 1990.

## Employment

- 1- Elmergib University, Libya (Full-time **Professor** in the department of Electrical and Computer Engineering) Jun. 2024 - Present.
- 2- Elmergib University, Libya (Full-time **Associate Prof** in the department of Electrical and Computer Engineering) Jun. 2020 - JUNE 2024.
- 3- Elmergib University, Libya (Full-time **Assistant Prof** in the department of Electrical and Computer Engineering) May 2016 - May 2020.
- 4- Elmergib University, Libya (Full-time **Lecturer** in the department of Electrical and Computer Engineering) Jul 2013 - May 2016.

- 5- Head of Quality and Performance Evaluation Section in the Faculty of Engineering, Elmergib University, Oct 2013 - Mar. 2016.
- 6- Elmergib University, Libya (Full-time **Research Assistant** in the department of Electrical and Computer Engineering) Mar 2006 - Aug 2008.
- 7- Railway Project, Libya (Part-time **Design Telecommunication Engineer** in Signalling and Telecommunication Management) Dec. 1996 - Mar. 2006.
- 8- Elmergib University, Libya (Part-time **Teacher Assistant** in the Department of Electrical and Computer Engineering) Dec 1996 - Dec. 2002.
- 9- Elmergib University, Libya (Full-time **Teacher Assistant** in the Department of Electrical and Computer Engineering) Jan. 1993 - Dec 1996.
- 10- Ministry of Transportation, Libya **Training Engineer** Jan. 1991 - Dec. 1992.
- 11- Part time teaching for undergraduate courses in many national universities as University of Tripoli (UoT) and Libyan University.
- 12- Scientific Committee Chairman, Organizer Member, Editor, and Conference Web Designer for six serial versions of the Conference on Engineering Sciences and Technology (CEST), which has been held annually in various national universities since 2018.

### **Teaching (Undergraduate Level)**

- Communication Engineering and Systems.
- Signals and Systems.
- Digital Communications.
- Electromagnetic Engineering.
- Cellular Mobile Communications.
- Electrical Circuits.
- Calculus (Basic Math and Algebra).
- Differential Equations.
- Numerical Analysis for Engineering
- Computer Programming (Basic + Fortran 90, Visual basic, and MatLab).
- Probabilities and Random Signal Processes.
- **Supervising many undergraduate projects.**

## Teaching (Graduate Level)

- Advanced Digital Communications.
- Advanced Wireless Communications.
- Information Theory and Coding.
- Probability Theory and Stochastic Process
- Advanced Engineering Mathematics.
- **Supervising many Master thesis's. Several projects in the field of wireless communications are in progress. Two students had graduated, five students are in progress.**

## Skills

**Programming Languages:** PHP, Java Script, Python, V-Basic, Wolfram, and FoxPro

**Operating Systems:** Windows & Mac.

**Applications:** Mathematica, MatLab, MapleSoft, L<sup>A</sup>T<sub>E</sub>X, MS Office and Adobe products.

**Miscellaneous:** CCNA Cisco certificate, software configuration management, design and evaluation mobile networks, design and sizing photovoltaic systems, good teams skills.

**Membership:** Member of *IEEE* since 2008, and of European Alliance for Innovation *EAI*.

## Journal Papers

- J1- Sana S. AL-Gamati, **Mohamed A. Elalem**, "Dynamic Pricing to Maximize Mobile Network Revenue (Almadar Aljadeed: Case Study)", Elmergib Journal of Electrical & Electronic Engineering EJEEE, Vol.1, Issue 1, Dec. 2022.
- J2- Nouri Ahwaas, **Mohamed A. Elalem**, "BER Performance of SISO-OFDM Scheme based on FFT over an AWGN Channel", International Journal of Advances in Computer and Electronics Engineering (IJACEE), ISSN: 2456 - 3935 Vol. 6, No. 9, pp. 1-8, Sep. 2021
- J3- Suad O. Merad, Asma M. Eshahiry and **Mohamed A. Elalem** "Average Delay with Different Priorities for Secondary User in Cognitive Radio Networks", International Journal of Latest Engineering Research and Applications (IJLERA) ISSN: 2455-7137, Vol. 06, Issue 11, pp 17-28, Nov. 2021.
- J4- Abobaker Shahrhan and **Mohamed Elalem** "Open Transport Network OTN", International Journal of Latest Engineering Research and Applications (IJLERA) ISSN: 2455-7137, Vol 04, Issue 08, pp 28-35, Aug. 2019.
- J5- Rima Almosbahi and **Mohamed Elalem** "Optimization Of Coverage And Handover for Heterogeneous Networks", International Journal of Advanced Research and Publications (IJARP) ISSN: 2456-9992, Vol. 3 Issue 3, pp 213-219, Mar. 2019.

- J6- **M. Elalem** “Wirelessly Monitoring Patients Based on E-Health Sensors”, Taqnyia: Periodical Scientific and Engineering Journal, issued by Higher Institution of Sciences and Technology (HIST), Messallata, Libya, Vol. 14, No. 1/2, pp 01-16, 2018.
- J7- **M. Elalem** “Pilot Aided Transmissions Technique to Achieve Optimal Effective Capacity Over Imperfect Channel Estimation in Cognitive Radio Networks”, Journal of Information Sciences and Computing Technologies (JISCT), Vol. 6, issue 2, pp 625-637, Nov. 2017.
- J8- **M. Elalem** “Effective Capacity Analysis For Cognitive Networks Under QoS Satisfaction”, Journal of Information Sciences and Computing Technologies (JISCT), Vol. 5, issue 3, pp 498-518, Feb. 2016.
- J9- **M. Elalem** and L. Zhao, “Effective capacity and interference analysis in multiband dynamic spectrum sensing”, Journal of Communication and Network(CN), Vol.5, No.2, May 2013.
- J10- **M. Elalem** and L. Zhao, “Throughput maximization based on optimal access probabilities in cognitive radio system”, Journal of Communication and Network(CN), Vol.5, No.3, Aug. 2013.
- J11- **M. Elalem** and L. Zhao, “Channel Estimation and Effective Capacity over Imperfect Rayleigh Channel environment in Cognitive Radio”, Journal of Communication and Computer(JCC), Jun. 2013.

## Conference Papers

### a - International Conferences

- IC1- M. Elalem and Tahani Jabir, “Malware Analysis in Cyber Security based on Deep Learning; Recognition and Classification,” 2023 IEEE 3rd International Maghreb Meeting of the Conference on Sciences and Techniques of Automatic control and Computer Engineering, (MI-STA 2023) May 2023 Benghazi, Libya.
- IC2- **M. Elalem**, “Capacity maximization in dynamic spectrum sharing based on optimal access probabilities” 4<sup>th</sup> International Conference on Wireless Mobile Communication and Healthcare (Mobihealth), EAI, Athens, Greece, Nov. 2014.
- IC3- **M. Elalem** “Effective capacity with interference constraints in multichannel spectrum sharing system”, International Conference on Research and Innovation in Information Systems (ICRIIS), Kuala Lumpur, Malyisa, Nov. 2013.
- IC4- **M. Elalem** and L. Zhao, “Optimal access strategy for capacity optimization in cognitive radio system,” In Proc. *IEEE* Wireless Comm. and Networking Conf.(WCNC), Shanghai, China, Apr. 2013.
- IC5- **M. Elalem** and L. Zhao, “Effective capacity and interference constraints in multi-channel cognitive radio network,” In Proc. *IEEE* Wireless Comm. and Networking Conf.(WCNC), Shanghai, China, Apr. 2013.
- IC6- **M. Elalem** and L. Zhao, “Effective capacity optimization based on overlay cognitive radio network in gamma fading environment,” In Proc. *IEEE* Wireless Comm. and Networking Conf.(WCNC), Shanghai, China, Apr. 2013.
- IC7- **M. Elalem** and L. Zhao, “Effective capacity optimization for cognitive radio network based on underlay scheme in gamma fading channels,” In Proc. *IEEE* Int. Conf. on Computing, Networking and Communications (ICNC), San Diego, USA, Jan. 2013.

- IC8- **M. Elalem** “Novel power control algorithm by decomposed geometric programming method for CDMA cognitive radio networks,” In Proc. *IEEE* Int. Conf. Comm. (ICC), Ottawa, Canada, Jun. 2012.
- IC9- **M. Elalem** and L. Zhao, “Optimal access probabilities to maximize capacity in cognitive radio system,” In Proc. 11<sup>th</sup> International Conference for Upcoming Engineers (ICUE), Toronto, Canada, Aug. 2012.
- IC10- **M. Elalem** and L. Zhao, “Traditional distributed power control algorithms for cognitive radio network,” In Proc. *IEEE* 6<sup>th</sup> International ICST Conference on Communications and Networking (ChinaComm), Harbin, China, Aug. 2011.
- IC11- **M. Elalem**, L. Zhao, and Z. liao, “Interference mitigation using power control in cognitive radio networks”, In Proc. *IEEE* Vehicular Tech. Conf. (VTC), Taipei, Taiwan, May 2010.
- IC12- **M. Elalem**, L. Zhao, “Realistic User Distribution and Its Impact on Capacity and Coverage For a WCDMA Mobile Network” *IEEE* Sarnoff, NJ, USA, May 2009.
- IC13- **M. Elalem**, A. Akki, “Uplink Capacity Coverage Product in CDMA Mobile Networks”, WOC (Wireless and Optical Communications), Quebec City, Canada, May 2008.

#### **b - National Conferences**

- NC1- Mohamed A. Elalem, Mohammed Altayib, and Milad Azzoka. (2024). “Implementing Zigbee Networks for Monitoring and Tracking Electricity Meters”, Sebha University Conference Proceedings, 3(3), 2731. <https://doi.org/10.51984/sucp.v3i3.3698>
- NC2- Magda Abunab and **Mohamed Elalem**, “Decision-Making Rules in Cooperative Cognitive Radio Networks: Evaluation and Comparison,” The Third Conference for Engineering Sciences and Technology CEST 2020, Alkhums, Libya, Dec. 2020.
- NC3- **Mohamed Elalem**, “Underlay Scheme Performance in General Fading Channels Based on Dynamic Spectrum Access”, Researches of the 6<sup>th</sup> Scientific Conference, Higher Institute of Scientific and Technology, Al-Khums, Libya, Dec. 2017.
- NC4- **Mohamed Elalem** “Effect of Imperfect Channel Estimation on Power Control and Achievable Rate in Cognitive Radio Networks” The International Conference on Electrical and Computer Engineering (ICECE), Benghazi, Libya, Mar. 2013.
- NC5- **Mohamed Elalem** “Effective Capacity for Multichannel Dynamic Spectrum Access systems with Interference Constraints”, The International Conference on Electrical and Computer Engineering (ICECE), Benghazi, Libya, Mar. 2013.
- NC6- **Mohamed Elalem** “Optimal Access Probabilities to Maximize Capacity in Cognitive Radio system”, The International Conference on Electrical and Computer Engineering (ICECE), Benghazi, Libya, Mar. 2013.
- NC7- **Mohamed Elalem**, “An Enhanced Transmission Algorithm for Cognitive Radio Network Based on Constrained Distributed Power Control”, Fifth Libyan Arab International Conference on Electrical and Electronic Engineering, Tripoli, Libya, Mar. 2010.
- NC8- **Mohamed Elalem**, Dr.A.S.Akki, Dr. L. Zhao, “Impact of Introducing a Hot Spot Microcell On Capacity-Coverage Stability in a WCDMA Mobile Network”, Fifth Libyan Arab International Conference on Electrical and Electronic Engineering, Tripoli, Libya, Mar. 2010.

NC9- **Mohamed Elalem**, A.S. Akki "Effect of Non-uniform user Distribution on Capacity and Coverage for a CDMA Mobile Network" The National Conference for Information Technology and Communication Tripoli, Libya, May 2010.

NC10- **Mohamed Elalem**, A.S. Akki "Capacity Coverage Product in CDMA Mobile Networks for Planning and Evaluations", The National Conference for Information Technology and Communication Tripoli, Libya, May 2008.

## Languages

- Arabic - Native Language.
- English - Speak/Read/Write.

## Awards

- Graduate Research Excellence Awards (GREAs), Ryerson University, Toronto, Canada, 2012.

Last updated: May 30, 2025