



# Lobna Ahmed Said

## Information

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- ❖ Associate Professor, School of Engineering and Applied sciences, Nile university.
- ❖ Director of Microelectronics system design (MSD), Nile University
- ❖ Co-Director of the Nanoelectronics Integrated Systems Center (NISC), Nile University.
- ❖ Senior Member IEEE.
- ❖ Co-Chair of the Egyptian Young Academy of Science (EYAS), ASRT, Egypt.
- ❖ Affiliate Member of the African Academy of Sciences (AAS).
- ❖ Member of the Arab-German Young Academy of Sciences and Humanities (AGYA)
- ❖ TWAS Young Affiliate

<b>Nationality:</b>	Egyptian
<b>Language Skills:</b>	Arabic: Mother Tongue, English: Excellent (reading, writing, speaking), IELTS SCORE: 7, French: Fair.
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<b>Research Gate</b>	<a href="https://www.researchgate.net/profile/Lobna_Said">https://www.researchgate.net/profile/Lobna_Said</a>

## Education

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<b>Ph.D.</b> <b>2012-2016.</b>	Electronics and Elec. Comm., Faculty of Engineering, <b>Cairo University</b> , Cairo, Egypt. Thesis Title “Design of Fractional-Order Oscillators and Filters Based on Two-Port Network” Advisors: Prof. Ahmed M. Soliman, Prof. Ahmed G. Radwan, and Dr. Ahmed H. Madian
<b>M.Sc.</b> <b>2007-2011.</b>	Electronics and Elec. Comm., Faculty of Engineering, <b>Cairo University</b> , Cairo, Egypt. Thesis Title “Active Realization of Doubly Terminated L.C. Ladder Filters Using Active Building Blocks” Advisors: Prof. Ahmed M. Soliman, Dr. Ahmed H. Madian, and Dr. Mahmoud H. Ismail.
<b>B.Sc.</b> <b>2002-2007.</b>	Electronics and Elec. Comm., Faculty of Engineering, <b>Cairo University</b> , Cairo, Egypt. Thesis Project " <i>Software-defined radio</i> ", Grade: <b>Distinction with honors.</b>

## Academic Experience

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	Director of Microelectronics system design (MSD)	September 1, 2021-Present
Nile University	Co-Director of the Nanoelectronics Integrated Systems Center (NISC)	September 1, 2021-Present
	Associate Professor (Full-Time)	June 13, 2021-Present
	Assistant Professor (Full-Time)	2016-2021
	Assistant Lecturer (Part-Time)	2015-2016
German University in Cairo (GUC)	Assistant Professor (Part-Time)	2016
	Assistant Lecturer (Full-Time)	2011-2016
	Teaching Assistant (Full-Time)	2007-2011

## Leadership Positions

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Position	Interval
Co-Chair of the Egyptian Young Academy of Science (EYAS), ASRT, Egypt.	October 2020-Present
Co-Director of the Nanoelectronics Integrated Systems Center (NISC), Nile University.	September 2021-Present
Director of Microelectronics system design (MSD), Nile University,	September 2021-Present
Member of the Council for future studies and risk management, ASRT, Egypt.	October 2021-Present
Vice-Chair of Technical Chapters, IEEE Egypt Section, IEEE	June 2022-Present
Elected Steering Committee Member of the Arab-German Young Academy of Sciences and Humanities (AGYA)	November 2022-Present

## Industrial Experience

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- 2012** Mentor Graphics.  
Vodafone Egypt.
- 2006** Egyptian Television.  
Egypt Telecom.

## Teaching Statement

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Teaching is one of the most honorable jobs that bring positive societal changes. It also gives a chance for the faculty members to contribute to increasing their students' creativity. My teaching philosophy is to make the students discover their inner potentials, encourage them to expand boundaries of knowledge, push them to do research, and always connect the theoretical basis with practical applications. Furthermore, it is essential to encourage their passion for learning by making the courses interesting and challenging to their minds at the same time.

An engineering student must have the ability to do practical work, learn and appreciate the beauty of the underlying mathematical foundations. I consider myself fortunate because I can teach electrical/electronic engineering and mathematics courses. Besides practical implementation, it is essential to teach them how to use Matlab, Cadence, and Spice software simulation tools. Furthermore, I always try to link the student to the research by participating in small research projects and doing both presentation and poster sessions. My main objective is to convey my experiences to my students to help them be productive members of society. As a result, I achieved an outstanding student evaluation throughout my career.

## Courses taught

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Digital Logic Design (DLD). Circuits I. Electronic circuits for electronics. Math 203 for engineering. Numerical analysis.	Integrated circuits design (I.C.s). Circuits II. Electronic circuits for mechatronics. Math 301 for engineering. Directed Study: Fractional-order Systems (Postgraduates)
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## Research Statement

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The role of analog integrated circuits in modern electronic systems remains essential, even though digital circuits dominate the market for VLSI solutions. Designs for active realizations of passive elements using high-performance active devices are an affluent area of research; many active elements have been used to simulate the inductor part in doubly terminated ladder filters. In my master thesis, I tried to contribute to this field by using different active current mode blocks to realize inductor less doubly terminated ladder filters.

Fractional calculus is the branch of mathematics related to differentiation and integrations of non-integer orders, where conventional calculus is considered a special case. One of the primary purposes of my PhD thesis was to generalize the design concept of the oscillators based on different active building blocks into the fractional-order domain. Another objective was to merge the fractional-order calculus and two-port networks, suitable for many applications. A prototype of fractional order two-port network oscillators was investigated. Two families of oscillators are introduced, one with extra two impedances and the other with extra three impedances along with the two-port network. Furthermore, three different optimization cases for normalized fractional-order low pass filters (LPFs) with the numerical, Circuit, and experimental results were investigated. A multi-objective optimization technique was used to control filter specifications: the transition bandwidth, the stopband frequency gain, and the maximum allowable peak in the filter passband.

During My MSc. and PhD, I published more than 20 international papers in top-ranked journals and conferences in fractional-order circuits, Analog electronics, circuits and systems, and Chaos theory.

Currently, I am working on different research projects which aim to Merge and integrate interdisciplinary concepts from mathematics (fractional-calculus), circuit theory, circuit modelling (Cole-Cole, and Debye), wireless (protocols), statistics (database), and agriculture (fruits and vegetables) in a theoretical and experimental framework.

My research interests are data security and encryption, analog and digital integrated circuits, Fractional-order circuits and systems, Nonlinear Analysis, and chaos theory. I published more than 150 papers in top-ranked journals and conferences in interdisciplinary research areas.

## Research Areas

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| 1-Analog integrated circuits.                | 2-Digital integrated circuits.         |
| 3-Fractional order circuits and systems.     | 4- Chaos Theory and Nonlinear systems. |
| 5- Fractional-order biomedical applications. | 6-Fractional calculus.                 |
| 7-Renewable energy                           | 8-wastewater treatment and agriculture |
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## Research Activities Overview over the years

Year (20XX)	10	11	12	14	15	16	17	18	19	20	21	22
National Grants	0	0	0	0	1	0	0	1	0	1	2	2
International Grants	0	0	0	0	0	0	0	0	0	0	4	1
Journal Papers	0	1	0	0	1	3	5	4	14	16	12	13
Book Chapter	0	0	0	0	0	0	0	6	0	4	4	
Books	0	1	0	0	0	0	0	0	0	0	3	
Conference Paper	1	1	1	5	3	2	10	9	18	9	8	7
Workshop/invited Talks	0	0	0	0	0	1	1	0	1	1	3	2
<b>Total</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>16</b>	<b>20</b>	<b>33</b>	<b>31</b>	<b>36</b>	<b>25+</b>

## Publication Distribution over the years

Year	2010	2011	2012	2014	2015	2016	2017	2018	2019	2020	2021	2022
Books		1									3	
Conf.	1	1	1	5	3	2	10	9	18	9	8	6
Journals		1			1	3	5	4	14	16	12	13
Chapters								6		2	4	
<b>Total</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>15</b>	<b>19</b>	<b>32</b>	<b>27</b>	<b>27</b>	<b>20+</b>

## List of Publications:

### Authored Books:

#### 2011

1. **L. A. Said**, A. H. Madian, and A. M. Soliman, "Active Circuits: Active realization of doubly terminated L.C. ladder filters using active building blocks," LAMBERT Academic Publishing LAP, 2011

### Edited Books:

#### 2021

1. Ahmed Radwan, Farooq Khanday, **Lobna Said**, "Fractional Order Systems: An Overview of Mathematics, Design, and Applications for Engineers," Academic Press, Elsevier, October 2021 ([Link](#))
2. Ahmed Radwan, Farooq Khanday, **Lobna Said**, "Fractional-Order Design: Devices, Circuits, and Systems," Academic Press, Elsevier, October 2021. ([Link](#))
3. Ahmed Radwan, Farooq Khanday, **Lobna Said**, "Fractional-Order Modeling of Dynamic Systems with Applications in Optimization, Signal Processing, and Control," Academic Press, Elsevier, October 2021. ([Link](#))

### Chapters:

#### 2018

1. **Lobna A. Said**, Karabi Biswas, Ahmed G. Radwan, "Fractional-Order Filter Design," Fractional Order Systems, pp. 357–382, 2018. [doi.org/10.1016/b978-0-12-816152-4.00012-1](https://doi.org/10.1016/b978-0-12-816152-4.00012-1)

2. **Lobna A. Said**, Ahmed G. Radwan, Ahmed H. Madian, Ahmed M. Soliman, "Survey on Two-Port Network Based Fractional-Order Oscillators," *Fractional Order Systems*, pp. 305–327, 2018. [doi.org/10.1016/b978-0-12-816152-4.00010-8](https://doi.org/10.1016/b978-0-12-816152-4.00010-8)
3. Wafaa S. Sayed, Samar M. Ismail, **Lobna A. Said**, Ahmed G. Radwan, "On the Fractional-Order Generalized Discrete Maps," *Mathematical Techniques of Fractional Order Systems*, pp. 375–408, 2018. <https://doi.org/10.1016/b978-0-12-813592-1.00013-1>
4. D.A. Yousri, Amr M. AbdelAty, **Lobna A. Said**, Ahmed G. Radwan, "Biological Inspired Optimization Algorithms for Fractional-Order Bio-Impedance Models Parameters Extraction," *Fractional Order Systems*, pp. 125–162, 2018. [doi.org/10.1016/b978-0-12-816152-4.00005-4](https://doi.org/10.1016/b978-0-12-816152-4.00005-4)
5. Mohammed F. Tolba, Amr M. AbdelAty, **L. A. Said**, A. H. Madian, Ahmed G. Radwan "FPGA Implementation of Fractional Order Chaotic Systems," *Fractional Order Systems*, pp. 33–62, 2018.
6. Omar Elwy, Esraa M. Hamed, Somia H. Rashad, Amr M. AbdelAty, **Lobna A. Said**, Ahmed G. Radwan, "On the Approximation of Fractional-Order Circuits Design," *Fractional Order Systems*, pp. 239–270, 2018. [doi.org/10.1016/b978-0-12-816152-4.00008-x](https://doi.org/10.1016/b978-0-12-816152-4.00008-x)

### 2020

7. Ahmed J. Abd El-Maksoud, Ayman A. Abd El-Kader, Bahy G.Hassan, Mohamed A. Abdelhamed, Nader G. Rihan, Mohamed F. Tolba, **Lobna A. Said**, Ahmed G. Radwan, Mohamed F. Abu-Elyazeed, "FPGA Implementation of Integer/Fractional Chaotic Systems," *Multimedia Security Using Chaotic Maps: Principles and Methodologies*, Springer, 2020. [https://doi.org/10.1007/978-3-030-38700-6\\_9](https://doi.org/10.1007/978-3-030-38700-6_9)
8. Irene S. Fahim, Ahmed M. Hassanein, **Lobna A. Said**, Ahmed H. Madian, "Design and fabrication of CNT/graphene-based polymer nanocomposite applications in nanosensors," *Nanofabrication for Smart Nanosensor Applications*, Elsevier, 2020.

### 2021

9. Menna Mohsen, Mohamed S. Ghoneim, **Lobna A. Said**, A. S. Elwakil, A. H. Madian, Ahmed G. Radwan, "Modeling Woody Plant Tissue Using Different Fractional-Order Circuits" *Fractional-Order Modeling of Dynamic Systems with Applications in Optimization, Signal Processing, and Control*, Academic Press, Elsevier, October 2021.
10. N. A. Khalil, M. Mohsen, G. M. Ahmed, **Lobna A. Said**, A. H. Madian and A. G. Radwan, "Fractional-Order Oscillators Based on single Op-Amp," *Fractional Order Systems: An Overview of Mathematics, Design, and Applications for Engineers*, Academic Press, Elsevier, October 2021
11. N. A. Khalil, **Lobna A. Said**, A. G. Radwan, and A. M. Soliman, "A Survey on Memristor Active Emulation Circuits in the Fractional-Order Domain," *Fractional Order Systems: An Overview of Mathematics, Design, and Applications for Engineers*, Academic Press, Elsevier, October 2021.
12. Arezki Fekik, Mohamed Lamine Hamida, Hamza Houassine, Hakim Denoun, Sundarapandian Vaidyanathan, Nacera Yassa, Ahmed G. Radwan, and **Lobna A. Said** "Observability of speed D.C. motor with self-tuning fuzzy fractional-order controller" *Fractional Order Design: Devices, Circuits and Systems*, Academic Press, Elsevier, October 2021.

### Journals:

### 2011

- |   |              |
|---|--------------|
| 1. <b>L. A. Said</b> , A. H. Madian, M. H. Ismail, and A. M. Soliman, "Active Realization of Doubly Terminated L.C. Ladder Filters Using Current Feedback Operational Amplifier | <b>3.169</b> |
|---|--------------|

(CFOA) Via Linear Transformation,” Int. J. Electron Comm. (AEU), vol.65, no.9, pp.753-762, 2011.	
<b>2015</b>	
2. <b>L. A. Said</b> , A. G. Radwan A. H. Madian, and A. M. Soliman, “Fractional Order Oscillators Based on Operational Transresistance Amplifiers,” Int. J. Electron Comm. (AEU), vol.69, pp.988-1003, 2015.	<b>3.169</b>
<b>2016</b>	
3. <b>L. A. Said</b> , A. G. Radwan A. H. Madian, and A. M. Soliman, “Two-port Two Impedances Fractional Order Oscillators,” microelectronics journal, vol. 55 pp. 40-52. 2016.	<b>1.992</b>
4. <b>L. A. Said</b> , S. M. Ismail, A. G Radwan, A. H. Madian, M. F. Abu El-Yazeed, and A. M. Soliman, “On the Optimization of Fractional Order Low Pass Filters,” Circuits, Systems, and Signal Processing (CSSP), vol. 35 no.6, pp.2017-2039.2016.	<b>2.311</b>
5. <b>L. A. Said</b> , A. G. Radwan A. H. Madian, and A. M. Soliman, “Fractional Order Oscillator Design Based on Two-Port Network,” Circuits, Systems, and Signal Processing (CSSP), vol. 35, no. 9, pp. 3086-3112, 2016. <a href="https://doi.org/10.1007/s00034-015-0200-8">doi.org/10.1007/s00034-015-0200-8</a>	<b>2.311</b>
<b>2017</b>	
6. <b>L. A. Said</b> , A. G. Radwan, A. H. Madian, and A. M. Soliman, “Fractional Order Oscillators with Controllable Phase and Frequency,” Journal of Circuits, Systems and Computers, vol. 26, No. 10. 1750160, Apr. 2017.	<b>1.278</b>
7. Samar M. Ismail, <b>Lobna A. Said</b> , Ahmed A. Rezk, Ahmed G. Radwan, Ahmed H. Madian, Mohamed F. Abu-Elyazeed, Ahmed M. Soliman “Generalized Fractional Logistic Map Encryption System Based on FPGA,” Int. J. Electron Comm. (AEU), vol. 80, pp. 114-126,2017. <a href="https://doi.org/10.1016/j.aeue.2017.05.047">https://doi.org/10.1016/j.aeue.2017.05.047</a>	<b>3.169</b>
8. Ahmed AboBakr, <b>Lobna A. Said</b> , A. H. Madian, A. S. Elwakil, A. G. Radwan, “Experimental Comparison of Integer/Fractional-order Electrical Models of Plant,” AEU - International Journal of Electronics and Communications, vol. 80, pp. 1–9, Oct. 2017.	<b>3.169</b>
9. Mohammed F. Tolba, Amr M. AbdelAty, Nancy S. Soliman, <b>L. A. Said</b> , A. H. Madian, Ahmad T. Azar, Ahmed G. Radwan “FPGA Implementation of Two Fractional-Order Chaotic Systems,” Int. J. Electron Comm. (AEU), vol. 78, pp. 162-172,2017.	<b>3.169</b>
10. D. A. Yousri, Amr M. AbdelAty, <b>Lobna A. Said</b> , Ahmed AboBakr, Ahmed G. Radwan “Biological Inspired Optimization Algorithms for Cole Impedance Parameters Identification,” Int. J. Electron Comm. (AEU), vol. 78, pp. 79-89,2017. <a href="https://doi.org/10.1016/j.aeue.2017.05.010">doi.org/10.1016/j.aeue.2017.05.010</a>	<b>3.169</b>
<b>2018</b>	
11. Omar Elwy, Somia H. Rashad, <b>Lobna A. Said</b> , Ahmed G. Radwan, “Comparison between three approximation methods on oscillator circuits,” Microelectronics Journal, vol. 81, pp. 162–178, Nov. 2018. <a href="https://doi.org/10.1016/j.mejo.2018.07.006">doi.org/10.1016/j.mejo.2018.07.006</a>	<b>1.992</b>
12. Esraa M. Hamed, Amr M. AbdelAty, <b>Lobna A. Said</b> , and Ahmed G. Radwan, “Effect of Different Approximation Techniques on Fractional-Order KHN Filter Design,” Circuits, Systems, and Signal Processing (CSSP), vol. 37, no. 12, pp. 5222–5252, May 2018. <a href="https://doi.org/10.1007/s00034-018-0833-5">doi.org/10.1007/s00034-018-0833-5</a>	<b>2.311</b>
13. Haneen G. Hezayyin, Gehad M. Ahmed, Mohammed E. Fouda, <b>Lobna A. Said</b> , Ahmed H. Madian, and Ahmed G. Radwan, “A Generalized Family of Memristor-Based Voltage Controlled Relaxation Oscillator,” International Journal of circuits theory and applications (CTA), vol. 46, no. 7, pp. 1311–1327, Jun. 2018.	<b>2.378</b>
14. Samar M. Ismail, <b>Lobna A. Said</b> , Ahmed G. Radwan, Ahmed H. Madian, Mohamed F. Abu-Elyazeed, “Generalized Double-Humped Logistic Map-based Medical Image Encryption,” Journal of Advanced Research, vol. 10, pp. 85–98, Mar. 2018.	<b>12.822</b>

15. M. F. Tolba, <b>Lobna A. Said</b> , A. H. Madian, and A. G. Radwan, "FPGA Implementation of the Fractional-Order Integrator/Differentiator: Two Approaches and Application," IEEE Transactions on Circuits and Systems I: Regular Papers, vol. 66, no. 4, pp. 1484–1495, Apr. 2019. <a href="https://doi.org/10.1109/tcsi.2018.2885013">https://doi.org/10.1109/tcsi.2018.2885013</a>	4.14
16. M. F. Tolba, B. M. AboAlNaga, <b>Lobna A. Said</b> , A. H. Madian, and A. G. Radwan, "Fractional-order integrator/differentiator: FPGA implementation and FOPID controller application," AEU - International Journal of Electronics and Communications, vol. 98, pp. 220–229, Jan. 2019. <a href="https://doi.org/10.1016/j.aeue.2018.10.007">https://doi.org/10.1016/j.aeue.2018.10.007</a>	3.169
17. D. A. Yousri, Amr M. AbdelAty, <b>Lobna A. Said</b> , A. S. Elwakil, Brent Maundy, Ahmed G. Radwan, "Parameter identification of fractional-order chaotic systems using different Meta-heuristic Optimization Algorithms," Nonlinear Dynamics, vol. 95, no. 3, pp. 2491–2542, Jan. 2019. <a href="https://doi.org/10.1007/s11071-018-4703-2">https://doi.org/10.1007/s11071-018-4703-2</a>	5.741
18. D. A. Yousri, Amr M. AbdelAty, <b>Lobna A. Said</b> , A. S. Elwakil, Brent Maundy, Ahmed G. Radwan, "Chaotic Flower Pollination and Grey Wolf Algorithms for parameter extraction of bio-impedance models," Applied Soft Computing, vol.75, pp. 750-774,2019. <a href="https://doi.org/10.1016/j.asoc.2018.11.020">/doi.org/10.1016/j.asoc.2018.11.020</a>	8.263
19. Nariman A. Khalil, <b>Lobna A. Said</b> , Ahmed G. Radwan, Ahmed M. Soliman "Generalized Two-port Network-Based Fractional Order Filters," AEU - International Journal of Electronics and Communications, vol. 104, pp. 128–146, May 2019. <a href="https://doi.org/10.1016/j.aeue.2019.01.016">doi.org/10.1016/j.aeue.2019.01.016</a>	3.169
20. Omar Elwy, <b>Lobna A. Said</b> , A. H. Madian, Ahmed G. Radwan, "All Possible Topologies of the Fractional-Order Wien Oscillator Family Using Different Approximation Techniques," Circuits, Systems, and Signal Processing (CSSP), vol. 38, no. 9, pp. 3931–3951, Feb. 2019. <a href="https://doi.org/10.1007/s00034-019-01057-6">https://doi.org/10.1007/s00034-019-01057-6</a>	2.311
21. N. S. Soliman, M. E. Fouda, A. G. ALHARBI, <b>Lobna A. Said</b> , A. H. Madian, and A. G. Radwan, " Ternary Functions Design Using Memristive Threshold Logic," IEEE Access, vol. 7, pp. 48371–48381, Apr. 2019.	3.476
22. M. F. Tolba, A. H. Elsafty, M. Armanyos, <b>Lobna A. Said</b> , A. H. Madian, and A. G. Radwan, "Synchronization and FPGA realization of fractional-order Izhikevich neuron model," Microelectronics Journal, vol. 89, pp. 56–69, Jul. 2019. <a href="https://doi.org/10.1016/j.mejo.2019.05.003">https://doi.org/10.1016/j.mejo.2019.05.003</a>	1.992
23. A. J. Abd El-Maksoud, A. A. Abd El-Kader, B. G. Hassan, N. G. Rihan, M. F. Tolba, <b>Lobna A. Said</b> , A. G. Radwan, and M. F. Abu-Elyazeed, "FPGA implementation of sound encryption system based on fractional-order chaotic systems," Microelectronics Journal, May 2019. <a href="https://doi.org/10.1016/j.mejo.2019.05.005">https://doi.org/10.1016/j.mejo.2019.05.005</a>	1.992
24. Nariman A. Khalil, <b>Lobna A. Said</b> , Ahmed G. Radwan, Ahmed M. Soliman, "General Fractional Order Mem-elements Mutators" Microelectronics Journal, vol. 90, pp. 211–221, Aug. 2019. <a href="https://doi.org/10.1016/j.mejo.2019.05.018">https://doi.org/10.1016/j.mejo.2019.05.018</a>	1.992
25. Nancy S. Soliman, Mohammed F. Tolba, <b>Lobna A. Said</b> , Ahmed H. Madian, Ahmed G. Radwan "Fractional X-shape Controllable Multi-scroll Attractor with Parameter Effect and FPGA Automatic Design Tool software" chaos solitan and fractals, vol. 126, pp. 292–307, Sep. 2019. <a href="https://doi.org/10.1016/j.chaos.2019.05.028">https://doi.org/10.1016/j.chaos.2019.05.028</a>	9.922
26. <b>Lobna A. Said</b> , Omar Elwy, Ahmed H. Madian, Ahmed G. Radwan, Ahmed M. Soliman "Stability analysis of fractional-order Colpitts oscillators" Analog Integrated Circuits and Signal Processing, vol. 101, no. 2, pp. 267–279,2019.	1.321
27. Ahmed M. Hassanein , Abdulaziz H. Elsafty , Ahmed H. Madian, <b>Lobna A. Said</b> , Ahmed G. Radwan "Center Pulse Width Modulation Implementation Based on Memristor," AEU - International Journal of Electronics and Communications, vol. 111, p. 152843, 2019.	3.169

28. B. M. AboAlNaga, <b>Lobna A. Said</b> , A. H. Madian, A. S. Elwakil and A. G. Radwan “Cole Bio-Impedance Model Variations in Daucus Carota Sativus Under Heating and Freezing Conditions” IEEE Access, vol. 7, pp. 113254 - 113263, August 2019. <a href="https://doi.org/10.1109/access.2019.2934322">doi.org/10.1109/access.2019.2934322</a>	3.476
<b>2020</b>	
29. E. M. Hamed, <b>Lobna A. Said</b> , A. H. Madian , and A. G. Radwan “On the Approximations of CFOA-Based Fractional-Order Inverse Filters” Circuits, Systems, and Signal Processing (CSSP), vol. 39, no. 1, pp. 2–29,2020. <a href="https://doi.org/10.1007/s00034-019-01155-5">doi.org/10.1007/s00034-019-01155-5</a>	2.311
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  51. Nancy Soliman, Mohammed Fouda, **Lobna A. Said**, Ahmed Madian and Ahmed Radwan, “N-digits Ternary Carry Lookahead Adder Design,” IEEE International Conference on Microelectronics (ICM), Egypt, 2019.
  52. Mahmoud Mahmoud, Ahmed Mohamed, **Lobna Said**, Ahmed Madian and Ahmed Radwan “Power Tracking Controller Design For Photo-voltaic Systems Based On Particle Swarm Optimization Technique,” IEEE International Conference on Microelectronics (ICM), Egypt, 2019.

53. Doaa K. Abdelrahman, Rawan Mohammed, Mohammed E. Fouda, **Lobna A. Said**, and Ahmed G. Radwan “Do the Bio-impedance Models Exhibit Pinched Hysteresis?,” the IEEE 63rd International Midwest Symposium on Circuits & Systems (MWSCAS), USA, 2020.
54. Amr Mohammaden, Mohammed E. Fouda, **Lobna A. Said**, and Ahmed G. Radwan “Memristor-CNTFET based Ternary Full Adders,” the IEEE 63rd International Midwest Symposium on Circuits & Systems (MWSCAS), USA, 2020
55. Nariman A. Khalil, Mohammed E. Fouda, **Lobna A. Said**, Ahmed G. Radwan, and Ahmed M. Soliman, “On Series Connections of Fractional-Order Elements and Memristive Elements” The 32nd International Conference on Microelectronics (ICM), Jordan, 2020.
56. Nariman A. Khalil, Mohammed E. Fouda, **Lobna A. Said**, Ahmed G. Radwan, and Ahmed M. Soliman, “Fractional-order Memristor Emulator with Multiple Pinched Points” The 32nd International Conference on Microelectronics (ICM), Jordan, 2020.
57. Doaa K. Abdelrahman, Rawan Mohammed, Mohammed E. Fouda, **Lobna A. Said**, and Ahmed G. Radwan “Comparative Study of CNTFET Implementations of 1-trit Multiplier” The 32nd International Conference on Microelectronics (ICM), Jordan, 2020.
58. Dalia A. Fathi, Mohammed E. Fouda, **Lobna A. Said**, Nourhan R. Khafagy, and Ahmed G. Radwan, “Two-Port Network Analysis of Equal Fractional-order Wireless Power Transfer Circuit” The 32nd International Conference on Microelectronics (ICM), Jordan, 2020
59. Merna Roshdy, Wafaa S. Sayed, **Lobna A. Said**, Ahmed H. Madian, Ahmed G. Radwan, and Mohamed Dessouky, “FPGA Implementation of Delayed Fractional-Order Financial Chaotic System” The 16th International Computer Engineering Conference (ICENCO),Egypt, 2020
60. Samar M. Ismail, **Lobna A. Said**, Ahmed G. Radwan , Ahmed H. Madian, Mohamed F. Abu-ELYazeed, “Fractional-Order Generalized Gene Regulation Model CCII-Based Practical Emulator” The 16th International Computer Engineering Conference (ICENCO),Egypt, 2020
61. Mohamed S. Ghoneim, Nariman A. Khalil, **Lobna A. Said**, Ahmed H. Madian, and Ahmed G. Radwan, “Generalized  $\alpha + \beta$ -order Filter Based on Single CCII” The 16th International Computer Engineering Conference (ICENCO), Egypt, 2020

## 2021

62. M. S. Ghoneim, A. A. Mohammaden, **L. A. Said**, A. H. Madian, A. G. Radwan and A. M. Eltawil, “A Comparative Study of Different Human Skin Impedance Models,” 38th National Radio Science Conference (NRSC2021), July. 2021.
63. Ahmed Ahmed, Eslam Shahin, **Lobna Said** and Ahmed Madian, “A Scalable Firmware-Over-The-Air Architecture suitable for Industrial IoT Applications,” 3rd Novel Intelligent and Leading Emerging Sciences Conference (NILES), October,2021.
64. Alaa AbdAlRahman, Samar M. Ismail, **Lobna A. Said**, Ahmed G. Radwan, “Double Fractional-order Masks Image Enhancement,”3rd Novel Intelligent and Leading Emerging Sciences Conference (NILES), October,2021.
65. Ahmed I. Ahmed, Samy H. Sharf, **Lobna A. Said** and Ahmed H. Madian, “Design of IoT Microchip AVR Programmer for FOTA Updates based on Unified Programming and Debug Interface using Wi-Fi and LoRa” 28th IEEE International Conference on Electronics Circuits and Systems (ICECS), November 2021
66. Ahmed I. Ahmed, **Lobna A. Said** and Ahmed H. Madian, “Over-The-Air Firmware Updating Model suitable for Industrial IoT based on Microchip AVR MCU” the IEEE 6th International Conference on Computing, Communication and Automation (ICCCA), December 2021
67. Mohamed Walid, Menna M. Elnaggar, Wafaa S. Sayed, **Lobna A. Said**, Ahmed G. Radwan “A Comparative Study of Different Chaotic Systems in Path Planning for Surveillance Applications” The 2021 International Conference on Microelectronics (ICM),December 2021.
68. Mahmoud F. Mahmoud , Ahmed T. Mohamed, R.A. Swief , **Lobna A. Said** , Ahmed G. Radwan “MPPT for A Partially Shaded P.V. System Using Accelerated Particle Swarms” The 2021 International Conference on Microelectronics (ICM), December 2021.

69. Ahmed H. Abdel-Gawad, Alaa Khamis, **Lobna A. Said**, and Ahmed G. Radwan, “Vulnerable Road Users Detection and Tracking using YOLOv4 and Deep SORT” JAC-ECC2021, December 2021.

2022

70. Bishoy K. Sharobim, Salwa K. Abd-El-Hafiz , Wafaa S. Sayed, Lobna A. Said, Ahmed G. Radwan “A Unified System for Encryption and Multi-Secret Image Sharing Using S-box and CRT” Proceedings of the 27th International Conference on Automation & Computing, University of the West of England, Bristol, UK, 1-3 September 2022.

71. Marwan A. Fetteha , Wafaa S. Sayed, Lobna A. Said , Ahmed G. Radwan “Chaos-Based Image Encryption Using DNA Manipulation and a Modified Arnold Transform” 11th International Conference on Model and Data Engineering (MEDI2022), Egypt November 2022.

72. Shahenda M. Abdelhafiz, M. E. Fouda, Lobna A. Said and A. G. Radwan, “On Fractional-order Capacitive Wireless Power Transfer System”, The 34th International Conference on Microelectronics(ICM), Morocco, December 2022

73. Mohammed H. Yacoub , Samar M. Ismail , Lobna A. Said , Ahmed H. Madian, and Ahmed G. Radwan, “Generic Hardware Realization of K Nearest Neighbors on FPGA”,The 34th International Conference on Microelectronics(ICM), Morocco, December 2022

74. Mahmoud F. Mahmoud , Ahmed T. Mohamed , R.A. Swief , Lobna A. Said , Ahmed G. Radwan, “Different Approximation Techniques For A FOPID Feedback Control of a DC Motor”,The 34th International Conference on Microelectronics(ICM), Morocco, December 2022

75. Bishoy K. Sharobim , Salwa K. Abd-El-Hafiz, Wafaa S. Sayed, Lobna A. Said , Ahmed G. Radwan, “A Secured Lossless Visual Secret Sharing for Color Images Using Arnold Transform”,The 34th International Conference on Microelectronics (ICM), Morocco, December 2022.

76. Ahmed I. Ahmed , Mohamed A. Elbhoty , Lobna A. Said and Ahmed H. Madian, “IoT Microchip AVR Microcontroller’s Fuses and Lock Bits High Voltage Programmer”,The 34th International Conference on Microelectronics (ICM), Morocco, December 2022.

77. The total impact factor of the published journals

#	Journal Title	No. of Papers	Impact Factor	Sum of IF
1	AEU - International Journal of Electronics and Communications,	13	3.169	41.197
2	JAR-Journal of advanced research	2	12.822	25.644
3	Circuits, Systems, and Signal Processing (CSSP)	6	2.311	13.866
4	IEEE Transactions on Circuits and Systems I, (TCAS I)	2	4.14	8.28
5	Applied Soft Computing (ASOC)	1	8.263	8.263
6	Nonlinear dynamics	1	5.741	5.741
7	Microelectronics journal	5	1.992	9.96
8	International Journal of circuit theory and applications (CTA)	2	2.378	4.756
9	Journal of Circuits, Systems, and Computers	1	1.278	1.278
10	IEEE Access	8	3.476	27.808
11	Chaos, Solitons & Fractals	4	9.922	39.688
12	Analog Integrated Circuits and Signal Processing	3	1.321	3.963
13	Signal Processing	1	4.729	4.729
14	Arabian Journal for Science and Engineering	2	2.807	5.614
15	IEEE SENSORS JOURNAL	1	4.325	4.325
16	Ain Shams Engineering Journal	2	4.79	9.58
17	IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—II: EXPRESS BRIEFS	1	3.691	3.691



18	Digital Signal Processing	1	2.92	2.92
19	Fractals	1	4.555	4.555
20	Scientific Reports	1	4.996	4.996
21	International Journal of Bifurcation and Chaos	1	2.45	2.45
22	Electronics	2	2.69	5.38
23	Sensors	1	3.847	3.847
24	Fractal and Fractional	1	3.577	3.577
<b>Sum of Impact Factors</b>				<b>247.429</b>

## H-Index

Google Scholar 27 <https://scholar.google.com/citations?user=4PdGRUGAAAAJ&hl=en>  
 Scopus 26 <https://www.scopus.com/authid/detail.uri?authorId=36740094700>

## Graduation Projects

Year	Title	No of Students
2018-2019	Breast Cancer Detection Based on Bio-Impedance	1
2019-2020	Speaking Glove for Deaf and Dumb	2

## Post-Graduate Research Activities: Number of graduate and current students

	Graduated	Current	Total
PhD	1	0	1
M.Sc.	12	12	24

## PG. students (under my supervision) still pursuing their master's degree

	Name	University
1	Ahmed El-Naggar,	MSD program Nile University.
2	Ahmed Magdy	MSD program Nile University.
3	Mohamed El-Hady	MSD program Nile University.
4	Amr Ali	MSD program Nile University
5	Sara Mostafa	MSD program Nile University.
6	Samar Embaby	MSD program Nile University.
7	Rawan Mohamed	MSD program Nile University.
8	Doaa Kamal	MSD program Nile University.
9	Maha Hassan	MSD program Nile University.
10	Ahmed Hosni	MSD program Nile University.
11	Ahmed Tarek	MSD program Nile University.
12	Mahmoud Farag	MSD program Nile University.

## PG. students (under my supervision) finished their degree

	Name	Thesis title	Degree	Thesis Outcomes	Program/University	Date
1	Gehad Mostafa,	Oscillators Based on Memristors and Fractional Systems.	MSc.	1 Journal paper 1 Conference paper 1 Chapter book	MSD program Nile University.	Nov. 2018

2	Esraa Hamed	Fractional Order Approximations of Filters and Memristive Emulators.	MSc.	2 Journal papers 3 Conferences papers <b>Prof. Mostafa Ghanem Award (Best thesis award from N.U.)</b>	MSD program Nile University.	Nov. 2018
3	Omar Elwy	Fractional Order Oscillators Using Different Approximation techniques.	MSc.	4 Journal papers 1-Chapter book 1 Conference paper	MSD program Nile University.	March 2019
4	Nancy Soliman	Building Optimized Ternary Logic Circuits Based on Threshold Logic and Building Novel Digital Design Automatic Tool	MSc.	1 Journal paper 3 Conference papers <b>Prof. Mostafa Ghanem Award (Best thesis award from N.U.)</b>	MSD program Nile University.	July 2019
5	Menna Mohsen	Modeling, Measurements, and Optimization of Biological Tissues.	MSc.	3 Journal papers 1 Conference paper 1 Chapter book	MSD program Nile University	Nov. 2020
6	Abdul Al Aziz Elsafty	FPGA Implementations of Fractional-Order Biological and Chaotic-Based Encryption Systems	MSc.	4 Journal papers 2 Conference papers	MSD program Nile University	Nov. 2020
7	Haneen Gamal	Memristor/ Inverse Memristor Emulators and Applications	MSc.	2 Journal papers 1 Conference	MSD program Nile University	Dec. 2020
8	Nariman A. Khalil	Applications of Fractional Order Elements and Mem-elements in Electronic Circuits	PhD.	4 Journal papers 8 Conference papers 1 Chapter book	Faculty of Engineering, Cairo University	Jan. 2021
9	Bahaa M. Mustafa	From fractals to fractional order systems: FPGA implementation, Optimization, and Applications	MSc.	4 Journal papers	MSD program Nile University	May 2021
10	Mohamed Salah Ghoneim	Bio-impedance Measuring, Optimization, and Modeling based on fractional-order circuits	MSc.	2 Journal papers, 2 Conference papers	MSD program Nile University	Feb. 2022
11	Merna Roushdy	Generic Hardware I.P. cores of fractional-order chaotic generator based on FPGA.	MSc.	3 Journal papers, 2 Conference papers	MSD program Nile University	March 2022

12	Ahmed Ibrahim	A Reliable Firmware-Over-The-Air Architecture for Industrial Internet of Things	MSc.	3 Conference papers	Information Technology and Computer Science - Software Engineering, Nile University.	March 2022
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## Competitive Grants

- National Grants

#	Duration	Detail
1	December 2015-December 2019	<p><b>Senior Researcher,</b> ASRT JESOR funded project under the title “wireless monitoring of fruit growth using an electrical bio-impedance sensor device,” Grant no #2009 Budget: 922,000 EGP, Nile University. Research Project <b>Outcomes:</b> 5 Journal papers, 4 Conference papers, 1 Chapter book, fully functional prototype</p>
2	December 2018-October 2021	<p><b>Senior Researcher,</b> Science, Technology, and Innovation Funding Authority (STIFA) funded project under the title “Two-Port Fractional-Order Oscillators and Filters Suitable for Tissue Modeling,” Grant no #25977 Budget: 460400EGP, Nile University. Research Project <b>Outcomes:</b> 22 Journal papers, 13 Conference papers, 2 Chapter books</p>
3	June 2020-March 2023	<p><b>Co-PI,</b> ASRT, JESOR funded project under the title “Smart Agriculture in the Internet of Things Era,” Grant no #5280 Budget: 999,950 EGP, Nile University Research Project <b>Outcomes:</b> 5 Conferences, 2 Journal, 1 Chapter book, fully functional prototype</p>
4	March 2021-March 2023	<p><b>Co-PI,</b> ASRT, Call no. 2/2019/ASRT-Nexus funded project under the title “Multi-Stage Low-Cost Treatment of Dyes and Paints Wastewater by Coagulation, Adsorption, and Filtration for Reuse in Several Applications,” Grant no # 4607 Budget: 2,084200 EGP, Nile University Research Project <b>Outcomes:</b> 2 Chapter books,1 Journal, fully functional prototype</p>

5 **October 2021-2023** **P.I.,**  
 Science, Technology, and Innovation Funding Authority (STIFA) funded project under the title “Fractional Order Analog and Digital I.P. cores for Motor control and Encryption Applications,” Grant no #**38161**  
 Budget: 1,106,000EGP,  
 Nile University.  
 Research Project  
**Outcomes:** 5 Conference papers, 5 journal

6 **Jan 2022-2024** **Senior Researcher,**  
 Science, Technology, and Innovation Funding Authority (STIFA) funded project under the title “Software Algorithms and Hardware Implementations of Information Security Using Number Theory and Chaotic Systems,” Grant no #**45631**  
 Budget: 1,843,300EGP,  
 Nile University.  
 Research Project  
**Outcomes:** 2 Conference paper,

7 **April 2022-April 2023** **Co-PI,**  
 ITAC funded project under the title “Multi-Purposes Reading IoT-Based Smart Platform,” Grant no # 207  
 Budget: 249,400EGP,  
 Nile University  
 Research Project

• **Nile University (NU.) Grants**

#	Duration	Detail
1	<b>September 2019-September 2021</b>	<b>P.I.,</b> NU funded project under the title “ <b>Ternary logic gates design,</b> ” Budget: 250k Research Project
2	<b>October 2020-July 2022</b>	<b>P.I.,</b> NU funded project under the title “ <b>Fractional-order complex chaotic systems: FPGA implementation and applications,</b> ” Budget: 250k Research Project
3	<b>October 2021-October 2023</b>	<b>P.I.,</b> NU funded project under the title “ <b>Efficient Implementation of Reconfigurable Machine Learning I.P. Cores on FPGA ,</b> ” Budget: 250k Research Project

• **International Grants**

#	Duration	Detail
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<b>1</b>	<b>March 2021-December 2021</b>	<b>Arab P.I.,</b> AGYA funded project under the title “Materials for Energy: Quantum Materials for Energy Technologies (Part III),” Budget: 24.323,86 €, Goethe University Frankfurt Germany, PPMS laboratory Fayoum University Egypt Hashemite University Jordan, Nile University Egypt Research Project ( <a href="#">Link</a> )
<b>2</b>	<b>July 2021-December 2021</b>	<b>Arab P.I.,</b> AGYA funded project under the title “Development of Graduate's Employability Competencies: Towards Capacity Building for Young Scholars,” Budget: 25,119,05 € Academy for Scientific Research and Technology (ASRT), Egypt, Islamic University of Gaza (IUG), Palestine, Palestine Polytechnic University (PPU), Palestine, Nile University Egypt Capacity Building Project ( <a href="#">Link</a> )
<b>3</b>	<b>October 2021-November 2021</b>	<b>Member,</b> <b>IEEE Funded Outreach proposal "Women in Science and Engineering".</b> Budget: \$2,000 USD Nile University Capacity Building Project
<b>4</b>	<b>October 2021-December 2022</b>	<b>Leading Member,</b> AGYA funded project under the title “Innovative and Creative Solutions for Post-Pandemic Recovery and Resilience: Fostering Knowledge Exchange,” Budget: 19,419,25 € Capacity Building Project ( <a href="#">Link 1</a> )
<b>5</b>	<b>April 2022 - July 2022</b>	<b>Leading Member,</b> AGYA funded project under the title “Summer School Quantum Materials for Energy Relevant Technologies” Budget:27,548,64 € Capacity Building Project ( <a href="#">Link</a> )
<b>6</b>	<b>August 2022-December 2022</b>	<b>Leading Member,</b> AGYA funded project under the title “Practical Training on Academic and Professional Skills for Entry into the Labour Market Phase 2” Budget:20,023,48€ Capacity Building Project

### Student Funded Graduation projects (Under my Supervision)

#	year	Detail
<b>1</b>	<b>2020</b>	<b>Supervisor of the Graduation project</b> ASRT, Call no. 2/2019/ASRT-Graduation Project under the title “Speaking Glove for Deaf and Dumb,” Budget: 30,000 EGP,

## Awards

Award	Granting year
The 2022 Junior Faculty Development Program (JFDP), <b>Fulbright</b>	2022
Top 2% Scientists According to Stanford Report for 2020 ( <a href="#">Link</a> )	2021
The 2021 IEEE Outstanding Branch Counselor & Branch Chapter Advisor Award ( <a href="#">Link</a> )	2021
The <b>State Encouragement Award</b> 2019 in the field of engineering science.	2020
<b>Dr. Hazem Ezzat Prize</b> for the outstanding Researcher, NU for 2019/ 2020.	2020
Top 2% Scientists According to Stanford Report for 2019 ( <a href="#">Link</a> )	2020
The 2 <sup>nd</sup> Place Best paper award Prize in ICM Conference, Jordon 2020	2020
<b>Dr. Hazem Ezzat Prize</b> for the outstanding Researcher, NU for 2018/ 2019.	2019
Best <b>Thesis Supervisor</b> for the M.Sc. student Esraa Hamed, Nile University, for the year 2018.	2019
<b>Excellence Award</b> from the Center for the Development of Higher education and Research for 2016	2019
<b>Best paper award</b> (electronic section) in the MOCASST Conference, Thessaloniki Greece, 2017. the paper titled “FPGA Realization of Caputo and Grünwald-Letnikov Operators.”	2017

## International Cooperation and Exposure

I collaborate with other professors outside Egypt in interdisciplinary research areas such as bio-impedance and optimization, fractional calculus, fractional-order circuits and systems, chaos theory and applications. Some of these professors are:

- 1) **Prof. Dr. Ahmed El-wakil**: Department of Electrical and Computer Engineering, University of Sharjah, PO 27272.
  - 2) **Dr. Brent Maundy**: Department of Electrical and Computer Engineering, University of Calgary, Alberta, Canada.
  - 3) **Prof. Costas Psychalinos**: Division of Electronics and Computers (Department of Physics), Pátra, Greece.
  - 4) **Prof. Karabi Biswas**: Indian Institute of Technology, Kharagpur, West Bengal 721302, India
  - 5) **Prof. Thomas Connolly**, Director of Teaching Assistant Certification, Adjunct Faculty (Aerospace Engineering & Engineering Mechanics), The University of Texas at Austin
  - 6) **Prof. Nina Telang** , Associate Professor of Instruction at Dept of Electrical & Computer Eng., UT Austin.
- ❖ **Participation in COST Actions Training School (Italy)**: Fractional-order controllers: from theory to application 2017 in Italy, Catania, where I had international experience. I have worked very closely with some world experts in the fractional-order control field.
  - ❖ **Participation in training on “Sustainable Development for Engineers”** at StadtLABOR GmbH in **Graz** in October 2018. The training forms an integral part of the joint ERASMUS+ project E-Prof-Eng. <https://www.elab.edu.eg/> Under the ERASMUS+ Program.
  - ❖ **Attending the 2022 Junior Faculty Development Program (JFDP), a Fulbright grant in The University of Texas at Austin**: The 2022 Fulbright Junior Faculty Development Program bring young faculty members from Egypt to U.S. institutions for faculty development, mentoring, and cultural exchange activities in Renewable Energy and Engineering and Information Technology from the end of June till mid-September 2022. During this 10-week program, faculty members are introduced to new teaching and research methods, observe classes, attend seminars, and develop linkages with American faculty through weekly mentoring sessions. In addition, ongoing community engagement with university-identified host families, volunteers, or

the broader local community would facilitate the scholars' participation in outreach activities, including visits to historical sites and cultural events.

- ❖ **An affiliate member of The African Academy of Sciences (AAS):** AAS is a non-aligned, non-political, not-for-profit African organization whose vision is to see transformed lives on the African continent through science. Identifying AAS Affiliates is highly competitive, where I was one of the 40 individuals chosen out of the 300 applicants all over Africa. The purpose of the AAS Affiliates Membership is to support the professional growth of African young and early-to-mid career scientists in their efforts to develop into outstanding research leaders in their respective fields
- ❖ **Member of The Arab-German Young Academy of Sciences and Humanities (AGYA).** It brings together excellent Arab and German scholars to address common challenges and develop solutions through sustainable research cooperation. AGYA has only 60 Members, highly selected scholars from 22 countries in the Arab world and Germany. The academy members implement joint research projects and initiatives at the interface of science and society, focusing on education, innovation, and science policy.

### **Directed Study Master Course: Fractional-Order Circuits and Systems**

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- I developed a course involving interdisciplinary research points for postgraduate students in fractional-order circuits and systems.
- Contributors in this course from the top of the universities worldwide in research projects within the course scope, such as India, Greece, and the USA
- The P.G. students would publish with these contributors' conferences, journals or book chapters
- We could create a total research-based course that will enable the P.G. students to be on track to pursue their masters
- The P.G. students will learn state of the art in fractional-order circuits and systems, simulations, using toolboxes, scientific writing, research quality,....etc
- The outcomes so far from this course are: 5 Journal papers, 7 Conference Papers, 1 Chapter book

### **Undergraduate Projects and the Undergraduate research forum (UGRF) in brief (2017-2020)**

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The Undergraduate Research Forum (UGRF), which is held in N.U. ([Link](#)) is an opportunity for N.U. undergraduate students to present the research-related activities and projects they cover as part of their course work and which are shown in the form of scientific reports, posters and even prototype (if possible). It is the top event in the university calendar where **I was the head of its organizing committee from 2017-to 2020**. From the third to the 9<sup>th</sup> event, my projects were introduced with more than 200 students/academic year. The projects are varied between research projects and hardware projects. The research involved many topics, such as modelling for cancer, tissues, and others. Participation in this event provides the students with a unique opportunity to experience actual research conferences. In addition, it provides a strong motivation for them to pursue further work on research and innovation.

## Academic Administrative Work.

Administrative work	interval
1. Head of UGRF organizing committee.	2017-2020
2. Head of undergraduate's academic, extracurricular activities and competitions,	2018-present.
3. Member of TQM department and process at NU,	2018-2019
4. Participation in the three open houses with a talk about undergraduate research forum.	2016-2018
5. Member of the committee of developing the postgraduate regulation manual at Nile University.	2016-present
6. Member of the committee for course equivalence at Nile University,	2016-present.
7. T.A.s Hiring committee in Nile university, which is responsible for hiring new teaching assistants in the electronic and communication sections and basic science section,	2016-present.
8. R.A.s Hiring committee in the NISC center: which is responsible for hiring new research assistants in the NISC center inside Nile University,	2016-present.
9. Supervising the NISC Facebook page and manage to increase the followers so far,	2016-present
10. Coordinator of Egyptian Scholars Abroad committee, Nile University, Egypt	November 2021-present
11. Member of Research, Innovation, and Development Committee (RIDC), Nile University, Egypt	October 2021-September 2022
12. Chair of Committee for T.A. Administrative and Financial Status Development ,Nile University, Egypt	September 2022-Present

## Editorial Board Membership

Journal /Publisher	Role	Link	Year
Electronics/MDPI	Editorial Board member	<a href="#">Link</a>	2022
AEU - International Journal of Electronics and Communications/ Elsevier	Editorial Board member	<a href="#">Link</a>	2022

## Organization of Special Session in a conference or Special Issue in a Journal

Special Session/Issue Title	Conference/Journal name	Year
Memristor & Nonlinear Systems	The Novel Intelligent and Leading Emerging Sciences conference, Egypt (NILES 2020),	October 2020
Fractional-order Circuit Theory and Applications	The Novel Intelligent and Leading Emerging Sciences conference, Egypt (NILES 2021),	October 2021
Memristive circuits and Applications	The 33rd International Conference on Microelectronics, Egypt (ICM 2021)	December 2021

## Scientific Tutorials, Workshops, invited lectures, and presentations

Title	Type of talk and event	Date and location
“Fractional-Order circuits and systems”	Tutorial in the 28th IEEE International Conference on Microelectronics (ICM 2016),	Dec 2016, Cairo, Egypt



<b>“Overview of bio-impedance in the food industry”</b>	<b>Workshop</b> on “Advanced Bio-impedance Modeling Using Fractional Calculus”	June 2017 Nile University, Egypt
<b>“Bio-impedance from theory to application: An Introduction.”</b>	<b>Workshop</b> on “Digital agriculture using Bio-impedance sensors.”	October 2019 Nile University, Egypt
<b>“An Overview of Fractional-Order Calculus Application in Electrical Engineering”</b>	<b>Workshop</b> on “fractional Order systems (FOS"20)” ( <a href="#">Link</a> )	February 2020 Indian Institute of Technology, Kharagpur (IITKGP), India
<b>“Fractional-Order circuits and systems”</b>	1st International (ONLINE) Conference in Mathematical Sciences and Fractional Calculus	16 – 18 Feb. 2021, Online Via Zoom
<b>“New Trends in Fractional-Order Circuits and Systems”</b>	The 19th International Conference on Aerospace Sciences & Aviation Technology (ASAT-19)	April 7, 2021, Online Via Zoom
<b>“New Era in Fractional-Order Circuits and Systems”</b>	<b>Workshop</b> on “Women in Science and Engineering”	November 6, 2021, Online Via Zoom
<b>“From the fundamentals of fractional calculus to applications in electrical engineering”</b>	The 3rd International Conference of Electrical Engineering and Information Technology ICEEIT 2022, Benghazi, Libya	October 30, 2022, Online Via Zoom
Contributing guest speaker in the talk session ‘ <b>Green Hydrogen, Energy Transition &amp; the Future of STEM Education in the Arab Region and Germany</b> ’.	‘COP27 – Conference of the Parties of the United Nations Framework Convention on Climate Change	November 10, 2022, Sharm El-Sheikh (Egypt)

### Public Service Tutorials, Workshops, invited lectures, and presentations

<b>Talk/Discussion Title</b>	<b>Type of talk and event</b>	<b>Date and location</b>
<b>“Overview of The Egyptian Young Academy of Science (EYAS)”</b>	<b>Workshop</b> on “Bridging the gap between academia and industry.”	October 12 2020, Online Via Zoom
<b>“Open Discussion on Women in Science (Europe and Eastern Women)”</b>	1st International (ONLINE) Conference in Mathematical Sciences and Fractional Calculus	16 – 18 Feb. 2021, Online Via Zoom
<b>“The Egyptian Young Academy of Science (EYAS): Science and Policy”</b>	Workshop on “Science policy and international young academies”	March 13 2021, Online Via Zoom

### Science Tribute to the Society Workshops Series entitled “Navigate Information and Science to Community (NISC)”.

<b>Workshop name</b>	<b>Date and location</b>
<b>Smart Agriculture in the Internet of things Era</b>	April 1 2021, Online workshop through Zoom with <a href="#">Link</a>

**Two Port Fractional-Order Oscillators and Filters Suitable for Tissue Modeling**

June 17, 2021, Online workshop through Zoom with [Link](#)

**Smart and connected Systems: the gateway to sustainable future**

June 23,2022, in NU. Campus

**Organization /Technical program committee of Conferences, Workshops**

<b>Year</b>	<b>Conference/workshop name</b>	<b>Role</b>
<b>2016</b>	The 28 <sup>th</sup> IEEE International Conference on Microelectronics, Egypt (ICM 2016), December 2016	<b>Member of the organization committee</b>
<b>2017</b>	Advanced Bio-impedance Modeling Using Fractional Calculus <b>Workshop at Nile University, July 2017</b>	<b>Member of the organization committee</b>
	The 4 <sup>th</sup> international conference on Advances in Computational Tools for Engineering Application, Lebanon Jul. 03 - 05, 2019. (ACTEA 2019),	<b>Session Co-chair for Bioengineering</b>
	The 31 <sup>st</sup> IEEE International Conference on Microelectronics, Egypt (ICM 2019), December 2019	<b>Publication Co-chair</b>
<b>2019</b>	<b>The Novel Intelligent and Leading Emerging Sciences conference, Egypt (NILES 2019), October 2019</b>	<b>Member of the organization committee</b>
		<b>Publication Co-chair</b>
	<b>Digital Agriculture Using Bio-impedance Sensors Workshop at Nile University, October 2019</b>	<b>Member of the organization committee</b>
		<b>Member of the organization committee</b>
<b>2020</b>	<b>The Novel Intelligent and Leading Emerging Sciences conference, Egypt (NILES 2020), October 2020</b>	<b>Publication Co-chair</b>
		<b>Session Chair for Memristor &amp;Nonlinear Systems</b>
	The 30 <sup>th</sup> international conference of the International Association of Management of Technology (IAMOT), September 2021	<b>Session Chair</b>
<b>2021</b>	<b>The Novel Intelligent and Leading Emerging Sciences conference, Egypt (NILES 2021), October 2021</b>	<b>Virtual sessions co-chair</b>
		<b>Session Co-Chair for Nonlinear Systems</b>
	The International Conference on Electrical Engineering & Information Technology, October 2021	<b>TPC</b>
	The 2nd NRC International Conference on Science and Sustainable Development (ICSSD2021)	<b>Member of the Students Committee</b>
<b>2022</b>	<b>“Future Technology of Smart Agriculture” Workshop at Nile university, 1<sup>st</sup> March 2022</b>	<b>Chair of the organization committee and workshop host</b>
	<b>“International Day of Women in Mathematics”</b>	<b>Member of the organization Committee</b>

### Organization /Hosting of Public Service Workshops

Workshop Title	Details	Role
<b>The Engineering Skills Development Seminar</b>	<b>March 11 2021</b> , Online workshop through Zoom with <a href="#">Link</a> , that aims to boost the students' understanding and lighten their way for a professional career. The workshop target to provide the students with the essential skills to meet their goals and get ready for the market	Organizing Member and workshop host
<b>Grants, Mission, and Education in Canada</b>	<b>April 11 2021</b> , Online workshop through Zoom that aims to inform young researchers about universities in Canada, available scholarships, and the personal grants provided by the Canadian government.	Organizing Member
<b>How to be Positive in Difficult Times</b>	<b>July 13 2021</b> , Online workshop through Zoom with <a href="#">Link</a>	Organizing Member and workshop host

The series, **“Towards an Interdisciplinary Science,”** aims to promote interdisciplinary research culture in Egyptian society and build researchers' capabilities to support research integration.

**“Interdisciplinary Research in Egyptian Universities”** aims to present the results of the questionnaire prepared by the “Interdisciplinary Research Group” at EYAS about

- The Egyptian researchers' vision of interdisciplinary research and the extent of their willingness to participate in research and projects of an interdisciplinary nature.
- The status of interdisciplinary research in Egyptian research institutions and the motivating or discouraging factors for this type of research.
- The extent to which Egyptian research institutions encourage and support interdisciplinary research, whether with financial support or awareness training courses.
- The extent to which current promotion regulations encourage interdisciplinary research

July 14, 2021, Online workshop through Zoom with [Link](#)

**“A step forward for interdisciplinarity”**, two days workshop presents Interdisciplinary Research: Challenges and solutions, How to create impact via interdisciplinary initiatives?, Stakeholder engagement in interdisciplinary researches, and System conceptualization and mapping for healthcare. August 1<sup>st</sup> and 2<sup>nd</sup>, 2021, Online workshop through Zoom with [Link](#)

**“Showcase Examples of Interdisciplinary Success”** presents real examples of interdisciplinary research and projects that have been implemented and transfer experiences and lessons learned from them to researchers to enhance and build their capabilities in this field and encourage them to

Organizing Member and workshop host

cooperate in interdisciplinary research. August 21, 2021, Online workshop through Zoom with [Link](#)

**“Toward Full-smart Implantable and Healthcare Devices”** represents the interdisciplinarity between engineering sciences and the medical sector. November 30, 2021, Online workshop through Zoom with [Link](#)

<p>The series, <b>“Road to Leadership”</b> aims at promoting the culture of Academic leadership in the Egyptian society and building the capabilities of researchers to support research integration.</p>	<p><b>“Road to Leadership in the academic Career”</b> introduces academic leadership styles and the importance of building a network of relationships by presenting personal experiences of successful models. May 5, 2022, Online workshop through Zoom</p>	<p>Organizing Member</p>
	<p><b>“Five Fatal Presentation Mistakes and How to Avoid Them”</b> introduces presentation skills and what must be avoided. July 7, 2022, Online workshop through Zoom</p>	

### **Funded International Training Directed to Community, Outreach, and International collaboration between NU And Universities from Arab and German Countries**

Workshop & Training for Graduates ‘Practical Training on Academic and Professional Skills for Entry into the Labour Market’ organized and funded by the Arab-German Young Academy of Sciences and Humanities (AGYA). The training has a hybrid character: an online workshop is combined with an intensive onsite training course. The workshop objective is to enhance the practical skills of graduates and increase their capacity to compete nationally and internationally at industrial and academic levels. In addition, it will equip them with essential soft and social skills, preparing them for the fast-evolving academic and professional community and the labour market.

The following topics will be included:

- Enhancing marketability skills of students.
- Interview skills and resume writing.
- Scholarship application strategies.
- Research skills and Academic Career.
- Understanding Entrepreneurship StartUps' Roadmap.
- Leadership and Entrepreneurial skills

Dates	Summary of the online Phase	Summary of the onsite phase	Partners
September-October 2021	After a widespread call for participation, 74 participants were selected from over 460 applications to participate in the online workshop. They have diverse disciplinary backgrounds and come from Algeria, Egypt, Jordan, Libya, Morocco, Palestine, and Nigeria	It took place in 3 different cities (Cairo, Gaza City and Hebron) in 2 countries for + 50 selected Participants by Specialized Training teams.	Academy of Scientific Research and Technology (ASRT), the Islamic University of Gaza (IUG), Nile University, and the Palestine Polytechnic University (PPU).
September-October 2022	We Received +2000 applications from 14 Arab countries. After the screening, +500 participants attended the three days of online training delivered by experienced invited speakers.	The onsite training is in 4 Arab country cities (Giza, Benghazi, West Bank, and Gaza), and It includes 100 participants, 25 participants per city,	The Academy of Scientific Research and Technology (ASRT), Egypt, Islamic University of Gaza (IUG), Palestine, Nile University (N.U.),

			Egypt, Palestine Polytechnic University (PPU), Palestine, and University of Benghazi,
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## Attended Conferences, Training, and Workshops

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- 2010 Hong Kong,**  
IEEE International Conference of Electron Devices and Solid-State Circuits (EDSSC).
- 2012 Tunisia,**  
The 16th IEEE Mediterranean Electro Technical Conference.
- 2014 Egypt,**  
The second International Conference on Engineering and Technology (ICET).
- 2014 Malaysia,**  
The 2nd International Conference on Electronic Design (ICED).
- 2016 Vienna,**  
The 39th International Conference on Telecommunications and Signal Processing (TSP).
- 2017 Egypt**  
The Advanced Bio-impedance Modeling Using Fractional Calculus Workshop  
**Greece,**  
MOCAS, Thessaloniki  
**Italy, Catania**  
Attending Training School: Fractional-order controllers: from theory to application 2017
- 2018 Graz, Austria**  
Attending Sustainability Training
- 2019 Lebanon**  
The 4<sup>th</sup> international conference on Advances in Computational Tools for Engineering Application.  
**Egypt,**  
Novel Intelligent and Leading Emerging Sciences Conference (NILES)
- 2020 Kharapur, India**  
Workshop on fractional Order systems (FOS"20)
- 2022 Tunisia**  
The awareness campaign about "Targeting Antibiotic Resistance ".  
**Austin, Texas, USA**  
The 2022 **Fulbright program** Junior Faculty Development Program (JFDP),  
**Sharm El-Sheikh**  
Guest Speaker at 'COP27 – Conference of the Parties of the United Nations Framework Convention on Climate Change

## Service Activities

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1. **Vice-Chair** of the IEEE Computational intelligence Egypt chapter 2018-present.
2. **Co-Chair** of the IEEE WIE in the IEEE CAS Egypt Technical Chapter, 2021
3. **Counsellor of the IEEE** NU student branch 2018-present.
4. **Technical program committee member** for the 28th IEEE International Conference on Microelectronics (ICM 2016), Cairo, Egypt.
5. **A reviewer** in many respected **journals such as:**

#	Journal name	Publisher
1	International Journal of Electronics and Communications	<b>Elsevier</b>
2	Journal of Microelectronics	<b>Elsevier</b>
3	Applied Mathematics and Computation	<b>Elsevier</b>
4	Optics and Lasers in Engineering	<b>Elsevier</b>
5	Journal of Franklin Institute	<b>Elsevier</b>
6	Journal of Information Security and Applications	<b>Elsevier</b>
7	Journal of Advanced Research	<b>Elsevier</b>
8	Journal of Food Engineering	<b>Elsevier</b>
9	Journal of Circuits, Systems & Signal Processing	<b>Springer</b>
10	Nonlinear dynamics	<b>Springer</b>
11	Arabian Journal for Science and Engineering	<b>Springer</b>
12	IEEE Microwave and Wireless Components Letters	<b>IEEE</b>
13	IEEE access	<b>IEEE</b>
14	IET Circuits, Devices & Systems	<b>IET</b>
15	International Journal of Circuit Theory and Applications	<b>Wiley</b>

**6. A reviewer in many respected conferences such as:**

- a. International Conference of Micro-Electronics ICM
- b. The International Conference on Modern Circuits and Systems Technologies (MOCAST)
- c. IEEE International Midwest Symposium on Circuits and Systems
- d. The Novel Intelligent and Leading Emerging Sciences Conference (NILES)

**Media and Press Coverage:**

Media Type and Date	Media overview	Interview link
T.V. interview <b>May 16, 2017</b>	The prototype of Bio-impedance sensors with fruits for the ASRT-Jesor funded project	<a href="#">Link</a>
TV report <b>December 17, 2017</b>	The 5th undergraduate research forum	<a href="#">Link</a>
Nile University Media on YouTube <b>December 7, 2019</b>	The 9th undergraduate research forum	<a href="#">Link</a>
TV interview with MBC <b>December 24, 2019</b>	The 9th undergraduate research forum	<a href="#">Link</a>
Nile University Media on YouTube <b>December 29, 2019</b>	NISC Research Topics	<a href="#">Link</a>
Radio interview <b>April 4, 2021</b>	The State Encouragement Award 2019 in the field of engineering science.	<a href="#">Link</a>
Interview with el Akhbar Journal <b>August 17, 2021</b>	My research and achievements	<a href="#">Link</a>
News about Development of Graduate's Employability	News coverage of training	<a href="#">Link 1</a> <a href="#">Link 2</a>

Competencies: Towards Capacity Building for Young Scholars, implemented on 2021		<a href="#">Link 3</a> <a href="#">Link 4</a>
Article about My Research	News Article about Research In Steganography	<a href="#">Link</a>
Article about My Research	News Article about Research In Bio-impedance	<a href="#">Link</a>
TV Interview with Sada El Balad 2 <b>Feb. 22, 2022</b>	My research and achievements	<a href="#">Link 1</a> <a href="#">Link 2</a> <a href="#">Link 3</a> <a href="#">Link 4</a>
Articles about workshop Feb. 26,2022	News articles about the workshop “Future Technology of Smart Agriculture”	<a href="#">Link 1</a> <a href="#">Link 2</a>
Article about Workshop May 15, 2022	News articles about the workshop “International Day of Women in Mathematics”	<a href="#">Link 1</a> <a href="#">Link 2</a>
Article about My participation in the JFDP May 15, 2022	Article about My participation in the 2022 Junior Faculty Development Program (JFDP), Fulbright	<a href="#">Link 1</a> <a href="#">Link 2</a> <a href="#">Link 3</a> <a href="#">Link 4</a>
News Articles of Practical Training on Academic and Professional Skills for Entry into the Labour Market phase 2”, implemented on 2022	News coverage of training	<a href="#">Link 1</a> <a href="#">Link 2</a> <a href="#">Link 3</a> <a href="#">Link 4</a>

## Professional Memberships

Member, IEEE	2014-present
IEEE Young Professionals	2014-present
IEEE Computational intelligence	2018-present
IEEE Circuits and Systems Society Membership	2016-2017, 2021-Present
Member of IEEE Communications Society	2014-2015
IEEE Industrial Electronics Society Membership	2021-Present
IEEE Women in Engineering Membership	2020-Present
Member of Egypt engineering syndicate	2007-present
A reviewer in many respected journals and conferences	2011-present