Fadi R. Shahroury

IEEE Senior Member

PERSONAL DETAILS

Address	PSUT, P.O.Box 1438 Al-Jubaiha - Amman, 11941 Jordan
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EDUCATION

PostDoc. 2011

National KTH Royal Institute of Technology, Stockholm, Sweden

Electronics Engineer

Ph.D. 2008

National Chiao Tung University ,Hsin-Chu,Taiwan

Electronics Engineer Research Area: Analog/RF IC Design.

Advisors:Prof. Chung-Yu Wu.

Dissertation: The analysis and design of CMOS current-mode RF Receiver Front-End Integrated Circuit.

Graduation date: 15-Sept. 2008.

M.Sc. 2002

National Chiao Tung University ,Hsin-Chu,Taiwan

Electronics Engineer

B.Sc. 2000

Princess Sumaya University for Technology, Amman, Jordan

WORK EXPERIENCE

Assistant Dean, King Abdullah II School of Engineering 2023–Present

Princess Sumaya University for Technology, Amman, Jordan

Responsibilities: I serve as a liaison between the School of Engineering and industry partners, aiming to strengthen collaboration and enhance employability and training opportunities for students. Additional responsibilities include:

- Initiating and managing partnerships with local and international companies.
- Coordinating internships and industrial training programs for engineering students.
- Supervising engineering lab operations and managing lab development and upgrades.
- Overseeing engineering staff and ensuring alignment with the school's academic goals.
- Supporting strategic planning and academic development for the school.
- Representing the school in external meetings and engineering councils.
- Assisting the Dean in administrative and academic affairs.

Department Head of Electrical Engineering Department 2020-2023
Princess Sumaya University of Technology, Amman, Jordan

Responsibilities: I oversee the operation of three programs

- The BSc. in Electronics Engineering Program.
- The BSc. in Electrical Power and Energy Engineering Program.
- The MSc. in Electrical Engineering Program.

I am also the coordinator for the Electrical Engineering program for ABET accreditation. Additional responsibilities include:

- Managing the day-to-day activities of the department.
- Setting course schedule and distributing faculty load.
- Coordinating the work for ABET accreditation for undergraduate programs.
- Chairing department meetings.
- Representing the department in higher councils.
- Hiring new faculty.
- Revising course plans and content.

Full Professor 2022-present
Princess Sumaya University of Technology, Amman, Jordan
Electrical Engineering Department.

Visitor Researcher 2018-2019
Queen's University Belfast,UK
Visiting Research Fellow in the School of Electronics, Electrical Engineering and Computer Science.

Associate Professor 2017-present
Princess Sumaya University of Technology, Amman, Jordan
Electrical Engineering Department.

Phoenix Academic Staff Exchange Program 2017
University of L'Aquila, L'Aquila, Italy
Responsibilities: During the Spring and Summer semesters of 2017, I worked on installing Cadence tools at the Department of Industrial and Information Engineering and Economics. In addition, I arranged a short course for Ph.D. students on how to design, simulate, and layout analogy circuit using Cadence tools.

Assistant Professor Professor 2008
Princess Sumaya University of Technology, Amman, Jordan
Electrical Engineering Department.
Responsibilities: I teach several undergraduate and graduate courses in the areas of Electronics Engineering, and I am conducting research in the areas of Analog/RF IC design.

Visitor Researcher 2005
Carleton University,Ottawa, Canada
Department of Electronics.

Laboratory Instructor 2000-2001
Princess Sumaya University of Technology, Amman, Jordan

Department of Electrical Engineering Responsibilities: I was responsible for teaching laboratory courses. The courses that I taught during this period are:
Electronics Lab. 1
Electronics Lab. 2
Electronics Communication Lab.
Circuits Analysis Lab 1
Circuits Analysis Lab 2

Intern Jun.-Sept. 1998

EGYPTIAN IRON & STEEL CO., Helwan, Cairo, Egypt

I was recommended by I.A.E.S.T.E (The International Association for the Exchange of Students for Technical Experience) to training in the Communication Department of EGYPTIAN IRON & STEEL CO. (only two students had the honor of my university from I.A.E.S.T.E in 1998)

RESEARCH INTERESTS

- Low-power, high-efficiency CMOS analog and RF integrated circuit design (LNA, mixers, LED drivers).
- Front-end ICs for photovoltaic rapid-shutdown and power electronics applications.
- IoT systems for smart agriculture, hazard detection, and Water/Farming 4.0.
- Embedded systems using LoRa, AI, and edge computing for environmental monitoring.
- Engineering education: flipped classrooms, remote labs, and digital tools for enhanced learning.
- E-learning adoption and educational transformation in post-pandemic and Industry 4.0 contexts.

HONORS AND AWARDS

Honored by the Jordan Engineers Association 2025

Recognized among Jordan's pioneering electrical engineers for contributions in patents, international awards, and technical innovation.

Recognized by the Electrical Engineering Division, Jordan Engineers Association 2025

Honored in a distinguished ceremony for pioneering contributions to electrical engineering in Jordan.

Best Paper Award – IEEE EDUCON 2023 2023

Received the Best Paper Award in the "Innovation Engineering Education" category at the 14th IEEE Global Engineering Education Conference (EDUCON) for the paper: "Impact of Remote Labs in Preparing Students for Work 4.0: The Story at Princess Sumaya University for Technology".

Team Leader – IEEE Empower a Billion Lives Competition 2023

Led the winning team from the King Abdullah II School of Engineering at Princess Sumaya University for Technology (PSUT) in the IEEE "Empower a Billion Lives" international competition. The project was awarded a prize of $25,000 USD and was selected among entries from various countries around the world.

Second Place – World Cup for Invention and Scientific Research 2022

Awarded second place in the prestigious World Cup for Invention and Scientific Research, organized by the International Everest Organization for Invention in partnership with the Tunisian Agency for the Promotion of Industry and under the supervision of IFIA. The award ceremony was held in Tunisia under the patronage of ***Prime Minister Najla Bouden****.*

Best Teaching Award 2020

Princess Sumaya University of Technology, Amman, Jordan

Senior Member IEEE 2015

Best Teaching Award 2014

Princess Sumaya University of Technology, Amman, Jordan

Who's Who in the World 2014

Listed in Marquis Who's Who in the World 2014 (31st Edition)

The second and third prize of the 7^{th} national technology parade 2014

Yarmouk University, Irbid, Jordan.

The second prize of the 4^{th} national technology parade 2011

Philadelphia University, Amman, Jordan.

Hisham Adeeb Hijjawi Award 2009

Hisham Adeeb Hijjawi Award for Applied Science
in the information technology and communication segment.

Excellent Presentation Award 2006

International PhD Workshop on SOC 2006, Taipei, Taiwan.

Innovation Contest Award 2006

International PhD Workshop on SOC 2006, Taipei, Taiwan.

Ph.D.First Rank 2004
First rank in Ph.D. Student EE department of National Chiao-Tung University, Hsinchu, Taiwan

Prince El Hassan bin Talal Royal Watch 2000
Princess Sumaya University for Technology, Amman, Jordan.
Prince El Hassan bin Talal Royal Watch Award by
Princess Sumaya Bint El-Hassan

B.Sc. First Rank 2000
First rank in undergraduate class of 2000, Princess Sumaya University for Technology, Amman, Jordan.

Honor List 1995-2000
Princess Sumaya University for Technology, Amman, Jordan.
I have been on the university honor list nine times from 1995-2000 and honored 51 hours from 172 hours as scholarships (the maximum hours allow as scholarship)

FUNDED PROJECTS

DigiSkills Microelectronics Training Program 2024–2025
Funded by the Ministry of Digital Economy
Funding: USD 200,000
Role: Project Manager

Enhancing Agriculture through IoT-Based Automation and Hazard Detection in Jordan 2023–2025
Funded by Princess Sumaya University for Technology
Funding: JD 13,000
Role: Principal Investigator

LoRa-Enabled Blockchain of Things Ecosystem for Water 4.0 and Farming 4.0 in Jordan 2024–2025
Funded by Princess Sumaya University for Technology
Funding: JD 13,000
Role: Co-Investigator

Preventing Counterfeit Products: Watermarking and Traceability Testing 2023–2025
Funded by Princess Sumaya University for Technology
Funding: JD 5,000
Role: Co-Investigator

e-Learning InnoVative Engineering Solutions 2017–2021
Funded by the European Union ERASMUS+

Funding: EUR 988,730
Role: Institutional Project Lead-PSUT
Website: https://erasmus-plus.org.jo/Portals/0/e-Learning%20InnoVative%20Engineering%20Solutions.pdf

Training for Medical Education via innovative eTechnology 2017–2020
Funded by the European Union ERASMUS+
Funding: EUR 999.996
Role: Project Team Member - PSUT
Website: https://erasmus-plus.org.jo/Portals/0/Training%20for%20Medical%20Education%20via%20innovative%20eTechnology.pdf

FELLOWSHIPS AND SCHOLARSHIPS

Full scholarships for Master and Ph.D. from National Chiao Tung University ,Hsin-Chu,Taiwan

TEACHING EXPERIENCE

Undergraduate courses taught:

- Electronics-I
- Electronics-II
- Communication Electronics.
- Digital Electronics.
- Solid State Electronics.
- Electrical Circuit Analysis-I.
- Electrical Circuit Analysis-II.
- Digital Electronics Fundamentals.

Graduate courses taught:

- Advanced Electronics.
- Communication Circuits and Systems.

SUPERVISION OF GRADUATE RESEARCH

Leen Alhyar 2024
Design of Reconfigurable Leaky Wave Antenna for Fixed Frequency Beam Scanning Applications

Basel Yaseen 2023
Design of a Front-End CMOS Receiver for Rapid-Shutdown Signals in PV Systems

Osama Abdulhadi 2022
Discrete Hardware Solution of a Rapid-Shutdown Front-End Receiver for Rooftop Photovoltaic Systems as per SunSpec Specification

Alaa Abdullah 2022
Design of a Receiver Front-End for Rapid-Shutdown of Photovoltaic Systems

Raya Jaradat 2021
Design a Fully Integrated Reconfigurable Low Noise Amplifier for Multi-Standard Wireless Receiver Using CMOS 0.18 μm *Technology*

Mohammed Al-Khateeb 2019
Design of an ALU for RNS by Using CMOS Technology

Thakir M. Al-Douri 2016
Design of an RF Front-End Receiver by Using Nano-Scale CMOS Technology

Ishraq Riad 2015
Design of Low voltage operational amplifier circuits in CMOS Technology

PATENTS

Method and System for Preventing Counterfeit Products Using Blockchain-based Traceability and Watermarking
World Intellectual Property Organization (WIPO), International Patent
Publication No.: WO2024038477A1
Status: Published – February 29, 2024
Inventors: Hani Ahmad, **Fadi R. Shahroury**
Link: `https://patents.google.com/patent/WO2024038477A1/en`

PUBLICATIONS

[1] Abdelbaset Assaf, Hadeel Abdellatif, and **Fadi R. Shahroury**. "Exploring career shifts to IT: motivations and mechanisms". In: *World Transactions on Engineering and Technology Education* 23.1 (2025), pp. 34–39.

[2] Ibrahim Abuishmais, Hani H Ahmad, and **Fadi R. Shahroury**. "A compact modular CMOS WLED driver for multi-display applications". In: *AEU-International Journal of Electronics and Communications* 173 (2024), p. 155028.

[3] Victor Dawood, Ibrahim Abuishmais, **Fadi R. Shahroury**, Emad El-Shaham, and Zaina Al-Khalidi. "Design of Average Current Mode Controller for Boost LED Drivers". In: *2024 International Conference on Microelectronics (ICM)*. IEEE. 2024, pp. 1–7.

[4] **Fadi R. Shahroury**, Elio San Cristobal, Abdallah Al-Zoubi, and Manuel Castro. "Elevating Electrical Engineering Education: Integrating Student-Generated Homework Solution Videos in Flipped Classrooms". In: *2024 IEEE Global Engineering Education Conference (EDUCON)*. IEEE. 2024, pp. 1–7.

[5] **Fadi R. Shahroury**, Ibrahim Abuishmais, and Hani H Ahmad. "Development of Renewable Energy Course for Electrical Engineering Program". In: *2023 46th MIPRO ICT and Electronics Convention (MIPRO)*. IEEE. 2023, pp. 1538–1542.

[6] Basel Yaseen, Amneh Akour, **Fadi R. Shahroury**, and Hani H Ahmad. "A Filter-less RMS-based S-FSK demodulation technique for SunSpec rapid shutdown receiver". In: *2023 IEEE 16th Dallas Circuits and Systems Conference (DCAS)*. IEEE. 2023, pp. 1–5.

[7] Abdallah Al-Zoubi, Manuel Castro, **Fadi R. Shahroury**, and Elio Sancristobal. "Impact of Remote Labs in Preparing Students for Work 4.0". In: *2023 IEEE Global Engineering Education Conference (EDUCON)*. IEEE. 2023, pp. 1–8.

[8] Abdallah Al-Zoubi, Elio San Cristobal, **Fadi R. Shahroury**, and Manuel Castro. "The middle east higher education experience: Implementing remote labs to improve the acquisition of skills in industry 4.0". In: *IEEE Transactions on Learning Technologies* 17 (2023), pp. 982–991.

[9] H Abdellatif and **Fadi R. Shahroury**. "E-learning and Job Burnout among Higher Education Instructors during COVID 19 Pandemic". In: *Academy of Strategic Management Journal* 21.1 (2022), pp. 10–16.

[10] Ibrahim Abuishmais, **Fadi R. Shahroury**, and Hani Ahmad. "A Design Methodology of High-Efficiency Dimmable Current Sink for Current-Regulated Drivers". In: *Electronics* 11.16 (2022), p. 2566.

[11] Ibrahim Abuishmais, **Fadi R. Shahroury**, and Hani Ahmad. "A Programmable Current Sink Driver for Multi-String LED Applications". In: *2022 International Conference on Microelectronics (ICM)*. IEEE. 2022, pp. 125–129.

[12] Eng Alaa Al Zetwi, Hani Ahmad, Eng Osama Abdel Hadi, Amenah Akkor, and **Fadi R. Shahroury**. "Counter-based rapid shutdown demodulation technique for rooftop solar system". In: *2022 International Conference on Microelectronics (ICM)*. IEEE. 2022, pp. 90–93.

[13] **Fadi R. Shahroury**, Hani H. Ahmad, and Abuishmais. "Design Aspects of a Single-Output Multi-String WLED Driver Using 40 nm CMOS Technology". In: *Journal of Low Power Electronics and Applications* 12.1 (2022). ISSN: 2079-9268. DOI: 10.3390/jlpea12010005. URL: https://www.mdpi.com/2079-9268/12/1/5.

[14] **Fadi R. Shahroury**, Luae Al-Tarawneh, and Abdallah Al-Zoubi. "In-the-Online-Class Remote Lab in Post COVID-19 Pandemic". In: *2022 IEEE Global Engineering Education Conference (EDUCON)*. IEEE. 2022, pp. 738–744.

[15] Raya O. Jaradat, **Fadi R. Shahroury**, Hani H. Ahmad, and I. Abuishmais. "Design Methodology for Narrow-Band Low Noise Amplifier Using CMOS 0.18μm Technology". In: *Jordanian Journal of Computers and Information Technology (JJCIT)* 8.1 (2022).

[16] **Fadi R. Shahroury**. "E-Learning During COVID-19 Epidemic: Experience of a University from Jordan". In: *Academy of Strategic Management Journal* 21.1 (2022), pp. 1–6.

[17] H Abdellatif and **Fadi R. Shahroury**. "The Bright Side of COVID-19: Implications of the Pandemic on E-Learning and the Educational Sector- A deep look into the Action Plan of the Jordanian Ministry of Higher Education". In: *Journal of Legal, Ethical and Regulatory Issues* 24.1 (2021).

[18] H Abdellatif and **Fadi R. Shahroury**. "Workplace safety in higher education institutions during covid-19 epidemic: Insights from a developing country". In: *Journal of Legal, Ethical and Regulatory Issues* 24.1 (2021), pp. 1–6.

[19] Hani H. Ahmad, **Fadi R. Shahroury**, and Ibrahim Abuishmais. "A Multi-Output Multi-String High-Efficiency WLED Driver Using 40 nm CMOS Technology". In: *Journal of Low Power Electronics and Applications* 11.4 (2021).

[20] **Fadi R. Shahroury**. "The Design Methodology of Fully Digital Pulse Width Modulation". In: *Journal of Low Power Electronics and Applications* 11.4 (2021), p. 41.

[21] Alaa Zetawi, Osama Abdulhadi, **Fadi R. Shahroury**, Hani H Ahmad, and Amneh Akour. "Components and Specification of Rapid Shutdown for Roof PV Systems". In: *2021 33rd International Conference on Microelectronics (ICM)*. IEEE. 2021, pp. 6–10.

[22] Hani H Ahmad and **Fadi R. Shahroury**. "Design of a High Efficiency WLED Driver in 40 nm CMOS Technology". In: *2020 32nd International Conference on Microelectronics (ICM)*. IEEE. 2020, pp. 1–4.

[23] **Fadi R. Shahroury**. "Design of a low-power CMOS transceiver for semi-passive wireless sensor network application". In: *Integration, the VLSI Journal* 71 (2020), pp. 95–104.

[24] **Fadi R. Shahroury** and Ahamd A Mohammad. "Design of a passive CMOS implantable continuous monitoring biosensors transponder front-end". In: *Microelectronics Journal* 90 (2019), pp. 141–153.

[25] **Fadi R. Shahroury**. "A 1.2-V Low Power Full-Band UWB Transmitter with Integrated Quadrature Voltage-Controlled Oscillator and RF Amplifier in 130 nm CMOS Technology". In: *Jordanian Journal of Computers and Information Technology (JJCIT)* 2.3 (2016).

[26] **Fadi R. Shahroury**. "A framework for mobile learning adoption". In: *Indian Journal of Science and Technology* 9.48 (2016), pp. 1–6.

[27] **Fadi R. Shahroury** and Ishraq Riad. "The Design and Optimization of Low-Voltage Pseudo Differential Pair Operational Transconductance Amplifier in 130 nm CMOS Technology". In: *2016 UKSim-AMSS 18th International Conference on Computer Modelling and Simulation (UKSim)*. IEEE. 2016, pp. 361–365.

[28] Ibrahim Abdo, Mutasem Odeh, and **Fadi R. Shahroury**. "A low-power and high-data rate passive RFID transceiver using 28-nm CMOS technology". In: *Microelectronics Journal* 46.12 (2015), pp. 1426–1433.

[29] Mutasem Odeh, Ibrahim Abdo, and **Fadi R. Shahroury Shahroury**. "A Low–Power and High–Efficiency CMOS Transmitter for Wireless Sensor Network Application". In: *2014 UKSim-AMSS 16th International Conference on Computer Modelling and Simulation*. IEEE. 2014, pp. 558–561.

[30] Ibrahim Abdo, Mutasem Odeh, and **Fadi R. Shahroury Shahroury**. "A new modulation scheme for low power consumption and small size passive RFID tags". In: *2013 IEEE conference on wireless sensor (ICWISE)*. IEEE. 2013, pp. 68–72.

[31] **Fadi R. Shahroury**. "Data Mining in The M-Learning Domain". In: *Trends in Innovative Computing* (2012).

[32] Feras Al-Dirini, Mahmood Mohammed, Murad Mohammad, and **Fadi R. Shahroury**. "A novel source-body biasing technique for RF to DC voltage multipliers in 0.18 μm CMOS technology". In: *2011 11th International Conference The Experience of Designing and Application of CAD Systems in Microelectronics (CADSM)*. IEEE. 2011, pp. 276–280.

[33] Feras Al-Dirini, Mahmood Mohammed, Murad Mohammad, and **Fadi R. Shahroury**. "Low power passive RFID transponder frontend design for implantable biosensor applications". In: *2011 IEEE International Conference on RFID-Technologies and Applications*. IEEE. 2011, pp. 56–63.

[34] **Fadi R. Shahroury** and Chung-Yu Wu. "A 1-V RF-CMOS LNA design utilizing the technique of capacitive feedback matching network". In: *Integration* 42.1 (2009), pp. 83–88.

[35] Chung-Yu Wu, Wen-Chieh Wang, **Fadi R. Shahroury**, Zue-Der Huang, and Hao-Jie Zhan. "Current-mode design techniques in low-voltage 24-GHz RF CMOS receiver front-end". In: *Analog Integrated Circuits and Signal Processing* 58.3 (2009), pp. 183–195.

[36] **Fadi R. Shahroury** and Chung-Yu Wu. "The design of low LO-power 60-GHz CMOS quadrature-balanced self-switching current-mode mixer". In: *IEEE microwave and wireless components letters* 18.10 (2008), pp. 692–694.

[37] Wen-Chieh Wang, Chang-Ping Liao, Yi-Kai Lo, Zue-Der Huang, **Fadi R. Shahroury**, and Chung-Yu Wu. "The design of integrated 3-GHz to 11-GHz CMOS transmitter for full-band ultra-wideband (UWB) applications". In: *2008 IEEE International Symposium on Circuits and Systems*. IEEE. 2008, pp. 2709–2712.

[38] **Fadi R. Shahroury** and Chung-Yu Wu. "CMOS Current-Mode 60 GHz mixer". In: *Ansoft 2006, Taipei, Taiwan*. Ansoft 2006. 2006, pp. 210–212.

[39] **Fadi R. Shahroury** and Chung-Yu Wu. "CMOS LNA Using Capacitive Feedback Matching Network". In: *IPS 006, Taipei, Taiwan*. IPS 006. 2006, pp. 24–28.

[40] Chung-Yu Wu and **Fadi R. Shahroury**. "A low-voltage CMOS LNA design utilizing the technique of capacitive feedback matching network". In: *2006 13th IEEE International Conference on Electronics, Circuits and Systems*. IEEE. 2006, pp. 78–81.

PROFESSIONAL PROFILES

- **LinkedIn:** linkedin.com/in/fadi-shahroury-353a0394
- **Google Scholar:** scholar.google.com/citations?user=6h-tMMwAAAAJ
- **ResearchGate:** researchgate.net/profile/Fadi-Shahroury

REFERENCES

Available upon request