

Curriculum Vitae (C.V.)

Dr./ Rania Fouad Ismail

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As Assistant professor specialized in environmental and sustainable design, Climate Ambassador, Lecturer at COP 27, Certified observer at COP 28 & COP 29 from united nations, certified Carbon footprint auditor from the Egyptian national institute of quality, I am always looking forward to developing my existing knowledge and skills in Sustainability and educational filed.

Education:

(2020), Ph.D. Degree

Architecture Department-Helwan University, Cairo, Egypt.
Title: “**Design methodology for zero energy public buildings**”.

(2012), M.Sc. Degree

Architecture Department-Helwan University, Egypt.
Thesis: “The Effect of Night Lighting on the Facades of Public Building”

(2007), B.Sc. in Architecture

Faculty of Engineering-Helwan University, Egypt.
Courses: 52 courses, Total Undergraduate Credits: 156, GPA: 3.52/4
Very Good with honor rank (4th / 220 students)

Career experience:

(2023-Now): Manger of International Students Affairs at Faculty of Engineering in Mataria-Helwan University :

I play a crucial role in supporting and guiding international students throughout their academic journey. Here are some of their key duties:

Recruitment and Admissions: Developing and implementing strategies to attract qualified international students to the faculty. Ensuring compliance with university and government regulations regarding international student admissions.

Student Support and Guidance: Providing comprehensive support and guidance to international students on academic, social, and cultural matters. Organizing orientation programs and workshops to help students acclimate to university life and Egyptian culture. Addressing student concerns and resolving issues related to academics, housing, and personal well-being.

Academic and Administrative Support: Liaising with academic departments to ensure smooth course enrollment and academic progress for international students. Providing support for language proficiency development and academic English courses. Assisting students with financial aid applications and scholarships. Managing student records and maintaining accurate databases.

Cultural Exchange and Community Building: Organizing cultural exchange programs and events to foster intercultural understanding and friendship between

international and local students. Collaborating with student clubs and organizations to create a welcoming and inclusive campus environment. Representing the faculty and university at international education conferences and events.

(October 2024): Visitor Professor and Lecturer at Nuremberg Georg Simon Ohm Technical University, Germany:

It was my pleasure to establish an international cooperation protocol between my university and Ohm Technical University in Nuremberg Germany, starting from, 2023 we had the chance to invite Dr. Simone as visitor professor and lecturer to our university, then at October 2024, I was invited as visitor professor and lecturer to give 3 lecture about sustainability and architecture typology in Egypt in three different Majors: Architecture - Urban design - Social service. In addition to holding meetings with the faculty Deans and the university's vice president for discussing the terms of the international cooperation and the planning for the future steps toward achieve it.

(2020-Now): Assistant Professor at Faculty of Engineering-Helwan University:

I am specialized in environmental design courses, also teach other courses as following:

Under graduate courses: Environmental control, Environmental Design, Concept of sustainability LEED, Modelling and Simulation, Building Environmental Impact, Architecture Technology 1, Illumination, Architecture theories.

Post graduated Courses: Building Life Cycle, Enhance buildings energy consumption.

Courses Activities

1. In Illumination course, I encouraged my student to participate in **LIGHT UPON LIGHT- student** lighting design competition, and guided them during their design journey, 2 groups from the winners are my students.

In the LEED course, I organized 2 webinars with LEED APs to transfer field experience to my students.

- 1st webinar was about “**LEED Project Design Process & Materials choice**” with Eng. Hoda M. Ibrahim LEED AP BD+C and Sustainability Projects Administrator and Principal Engineer at Engineering Consultants Group, ECG.
- 2nd webinar was about “**LEED rating system & an intensive study of Indoor Environmental Quality IEQ**” with Eng. Mohamed Osama LEED AP BD+C Senior Architect at DAR Alhandasah.

(May 2022-Now): R&D Manger at Criteria Design Group:

I am an architect and sustainability consultant who manage the Research & Development Department at CDG engineering team to design and develop new sustainable projects design, enhance design to match requirement, building model energy simulations, guarantee best presentation, compatible designs with codes, writing professional financial offers, manage social media Plan and content, follow up projects progress, coordinate with other disciplines, meeting new clients and represent CDG at any event.

(2008- 2020): Lecturer and Teaching Assistant at:

- Architecture Department, Helwan University, Egypt.
- Courses 2016-2020: Architectural Design II, III and IV, Graduation Project, Working Drawings, Urban and Regional planning, Building Design, and Environmental control. Architectural History II, III and IV, Architectural Criticism, Visual design.

(2014-2016): Supervisor at Bell Inc.

Supervisor in loyalty department, Sherbrooke, QC, Canada.

Bell Inc. one of the biggest companies in Canada in communication field. I was trained understanding the clients needs and offer the best offer that guarantee their satisfaction, also, I was responsible of receiving customers complains and doing my best to solve their problems, and I learnt how to retain customers loyal to the company.

(2012-2014): Senior at Construction office

Senior at Dr. S. Soliman construction & consulting Inc., Sherbrooke, QC, Canada.

I was responsible for preparing all the workshop drawings and all the construction details for steel, timber, and concrete structure buildings. The projects I worked on was residential and commercial buildings.

WORKSHOPS & Activities:

- Invited by the Engineering syndicate, Architecture Department to participate as **speaker** in Architecture Week in Cairo and give lecture about “Post COP 29: future vision for architecture role in environment”, December 2024
- Observers at **COP 29** certified by United Nations representing “The Volunteer Team for Humanitarian Action”, Baku, Azerbaijan, November 2024
- Speaker at Sustainability Day at **Big 5** Talks Egypt, to give lecture about “The next step- Advanced Carbon Footprinting for Sustainable Building Design”, June,2024
- Observers at **COP 28** certified by United Nations representing “The Volunteer Team for Humanitarian Action”, Dubai, UAE, November 2023
- **Carbon Footprint Auditor** certified by the National Egyptian Institute of Quality, September 2023.
- The only nominated staff member by the dean of Faculty of engineering, Helwan University for participating in “**Sustainable and Smart Cities**” that organized by ALECSO, UNISCO, and Ministry of Higher education and Research. May 2023

- Lecturer at “**Carbon Footprint Diploma for Businesses**”, giving lectures about GHG protocol towards sustainable building and cities. March 2023, January 2024.
<https://www.youtube.com/watch?v=BFk3e2ZoT5Q>
- Attended Algorithm Architects 40h workshop at **AANT Academy** about “**Parametric Urban Design Optimization**”. Italy, February 2023
- Board of Trustees member at the first Egyptian initiative “**Carbon Neutrality Initiative**”, toward achieve carbon neutrality by 2050 and net greenhouse gas (GHG) emission by 2060-2070. The Initiative is published on the United Nations website. January 2023
<https://sdgs.un.org/partnerships/carbon-neutrality-initiative>
- Speaker at Innovation Zone, **COP27** about “**Climate Ambassadors Role in Carbon Literacy**”. November 2022
<https://www.youtube.com/watch?v=KDYRmKXALFU>
- Member at the initiative of “**One Million Youth Volunteers for Climate Change**”. The Initiative is published on the United Nations website.
<https://sdgs.un.org/partnership-progress/climate-ambassadors>
- Attended “**Training Program to Train Africans and Egyptians Climate Ambassadors**”, supported by Faculty of Graduate Studies and Environmental Research, Ain Shams University, and the United Nations for Climate Change. May 2022
- Organized a webinar about “**LEED Project Design Process & Materials choice**” with Eng. Hoda M. Ibrahim LEED AP BD+C and Sustainability Projects Administrator and Principal Engineer at Engineering Consultants Group, ECG, 2020
- Organized a webinar was about “**LEED rating system & an intensive study of Indoor Environmental Quality IEQ**” with Eng. Mohamed Osama LEED AP BD+C Senior Architect at DAR Alhandasah, 2020.
- **DAAD Program**: nominated from my faculty to participate in Student Workshop and Measuring campaign as PhD candidate on “**Urban Heat Island, Heat Wave and Human Thermal Comfort**”, conducted between the days of 26th August – 09th September 2018 by **Freie Universitat Berlin**, Institute of Meteorology at TU-Berlin Campus El Gouna.
- Attended Workshops on “**Enhancing Sustainable Products in Construction**” - “**BIM Adaption for Large Scale Firms and Implementation Procedures in Mega Projects**” - “**Digital Construction Technology Applications**” - “**IRVQM, integrated Approach for Risk, Value and Quality Management**”- “**Effective utilization of Coated Flat Steel in Construction**”- “**Valuation and financing of real estate projects and their relationship with the feasibility of construction**”, The Big 5 Construction Egypt, 2018.

Television interviews

- Alsharqiya Tube Channel, “Baried Al Qahera”, interview about “Media Studios Fire Fighting” April, 1st, 2024. <https://www.youtube.com/watch?v=504qJl8jJnw>
- Nile News Channel, “Haza El Sabah” T.V. Program, interview about “ The Egyptian Plans for Sustainable and Green residential Units, September, 22nd, 2023. <https://youtu.be/AL9vfPmGY4M?feature=shared>
- Egyptian Channel, “Mobasher Men Masr” T.V. Program, interview about “**Egyptian Smart and Sustainable Cities**” April 13th, 2023 <https://www.youtube.com/watch?v=-GQkhoqEjBk>
- Nile Culture channel, “Alem Mowazy” T.V. Program, interview about “**New smart cities provide an environmentally friendly digital environment that stimulates learning and creativity**” January 14th, 2023. <https://www.youtube.com/watch?v=GIeLLYEJBIA>
- Nile News channel, “Men El Qahera” T.V. Program, interview about “**Egyptian New Cities Planning Strategies**” December 21st, 2022. <https://www.youtube.com/watch?v=cfyuHaNpKVg>
- Nile News channel, “Men El Qahera” T.V. Program, interview about “**Government Role for Offering Career Opportunities for Youth**” December 7th, 2022. <https://www.youtube.com/watch?v=G9FgUOcPPMs>
- Nile News channel, “Men El Qahera” T.V. Program, interview about “**Investing Opportunities in Egypt for Governmental and private sectors**” November 25th, 2022. https://www.youtube.com/watch?v=WEuaSIR_o04

RESEARCH INTERESTS & PUBLICATIONS

My research interests are generally in the field of environmentally sustainable design and the effect of recent technologies in enhancing the architectural design process.

Research interests

The specific research interests are as follows:

- Environmental and sustainable design.
- Modeling and simulation role on architectural design process.
- Zero energy design evaluation process and tools.
- Programs and software that facility designing zero energy building.
- The effect of Urban Heat Island on the design process.
- Enhancing Public buildings performance.
- Studying the new materials that improve the building envelop performance.
- Sustainable Lighting design.
- Smart city planning and management.
- Carbon Footprint emissions
- Green Buildings Rating Systems

Publications:

2025

- Abdallah Shokry, Sahar Mohamed, Rania F. Ismail, **“The effect of urban space components on thermal comfort factors. An applied study simulating climatic factors in urban spaces”**, Engineering Research Journal, Matria Faculty of Engineering, volume 185, March 2025
- Abdallah Shokry, Sahar Mohamed, Rania F. Ismail, **The role of urban space design principles in enhancing user interaction within urban spaces**, Engineering Research Journal, Matria Faculty of Engineering, volume 185, March 2025
- Helal, H., Ismail, R.F. (2025). **“Analytical Study for Innovative Sustainable University Campus Design in Egypt”**. In: Mansour, Y., Subramaniam, U., Mustafa, Z., Abdelhadi, A., Ezzat, M., Abowardah, E. (eds) Proceedings of the ICSDI 2024 Volume 1. ICSDI 2024. Lecture Notes in Civil Engineering, vol 556. Springer, Singapore. https://doi.org/10.1007/978-981-97-8712-8_15
- Merna R. Ashac, Rania F. Ismail, Nasreen Fathy Abdelsalam, **“Sustainable Hospitals Lighting Design Optimization to Enhance Patient Well-Being”**, Mansoura Engineering Journal, January 2025

2024

- Nourhan Ali Megahed; Rania F. Ismail; Soha Eldakdoky. **"Optimizing High rise Building form for energy performance using Generative Design Framework"**, *Engineering Research Journal*, volume 183, Issue 3, September 2024, 345-366. <https://doi.org/10.21608/erj.2024.377321>
- Rania F Ismail, Ahmed Abouzied, **“The Impact of Using Fiberglass Reinforced Concrete (FRC) on Sustainable Design and Construction Future”**, Conference: Environmental Design, Material Science, and Engineering Technology, July 2024
- Helal, H., Ismail, R.F., **“The Values Trilogy Design Philosophy: Integrating Sustainability, Cost-Effectiveness, and Artistic Expression in Architectural Design”**, Conference: Environmental Design, Material Science, and Engineering Technology, July 2024
- Helal HA, Fouad R. **An Innovative Design for Environmentally Friendly Housing Model in Egypt**. 15th International Conference on Sustainable Green Construction and Nano-Technology (NTC) 2024. <https://doi.org/10.4028/p-y13vg0> .
- Rehab Rabia, Sahar Mohamed, Rania F. Ismail, **“The relationship between sustainable low-carbon school design and identity”**, Engineering Research Journal, Matria Faculty of Engineering, volume 182, June 2024, <https://doi.org/10.21608/erj.2024.359249>

2023

- Tarek M., Samy Kamel, Rania F. Ismail, **“Strategy for Sustainability in Hospital Buildings Using Environmentally Friendly Building Materials”**, Engineering Research Journal, volume 178, June 2023. <https://doi.org/10.21608/erj.2023.302550>
- Sarah Wasem, M. Taha, Rania F. Ismail, **“The role of sustainable children's centers to catalyze the environmental behavior (Case study of children center for civilization and creativity in Cairo)”**, *Engineering Research Journal*, 177, 116-129. <https://doi.org/10.21608/erj.2023.288853>
- Enas A Salama, Rania F. Ismail, **“Relationship Between Lean and Green Buildings Egypt”**, MSA Engineering Journal, Egypt, March 2023, Manuscript ID: MSAENG- 2303-1297. <https://doi.org/10.21608/msaeng.2023.291862>
- Ismail, Rania F., and Hesham A. Helal. **“Innovative Environmental Solution for One Floor Existing Commercial Buildings Located in Hot Climate to Be Naturally Ventilated (Case Study at Ras El Bar, Egypt).”** Construction Technologies and Architecture. Trans Tech Publications Ltd, June 12, 2023. <https://doi.org/10.4028/p-5ckg66> .
- Helal, Hesham A., and Rania F. Ismail. **“Design Criteria for Designing Sustainable Commercial Buildings in Hot and Arid Climate.”** Construction Technologies and Architecture. Trans Tech Publications Ltd, June 12, 2023. <https://doi.org/10.4028/p-pu8022>.

- Rania. F. Ismail, Hesham A. Helal, **“Retrofitting Design for Multi-Story Commercial Buildings to Be Naturally Ventilated for Energy Efficient Building Design (Application Case Study at New Damietta)”**, the 14th International Conference on Sustainable Green Construction and Nano-Technology, NTC, Egypt, March 2023

2022 & before

- Rania Ismail, **“Design Methodology for Zero Energy Public Buildings”**, Ph.D. Dissertation, Helwan University, 2022
- Rania Ismail, Zeinab Mohamed ElRazaz, Nasreen Fathy Abdelsalam, **“An Intensive methodology for designing near zero energy public buildings in Egypt: office building as a case study”**, Assiut University, Journal, article 8, Volume 48, No 3, May and June 2020, Page 447-467 November 2019. <https://doi.org/10.21608/jesaun.2020.108951>
- Rania Ismail, Maha ElGohary, Soha ElGohary, Gehad Abd ElSalam, Zainab M. ElRazaz, A. Abdeen **“Towards Zero Energy Residential Unit in Egypt”**, Cairo University Conference 8, 2019.
- Marwa K a m a l, Rania Ismail, Doaa M.Helal, Ahmad Eltaweel, **“Mosque Design between Iconicity and Receptiveness”**, International Conference on Mosque Architecture, November 2019.
- Rania Ismail, Zeinab Mohamed ElRazaz, Nasreen Fathy Abdelsalam, **“An Intensive methodology for designing near zero energy public buildings in Egypt: office building as a case study”**, , Asuit University, Journal, November 2019.
- Ismail, R. F., etc., **“Energy plus residential unit”**, technical report, ZERU international competition, 2018.
- Ismail, R. F. and W a g i h, D . A . , **“Modern Lighting Applications For LED Technology And Its Impact On The Facades of Buildings”**,2013.
- Ismail, R.F **“The Effect of Night Lighting on the Facades of Public Buildings”**, M.Sc. Thesis, Architecture department, Faculty of Engineering, Helwan University, 2012

Research Activities

Co supervisor for graduate students, 3 Ph.D. candidate & 13 M.Sc. graduate students.

- Ph.D. dissertation about: **“Adaptive Design Methodology for Gated Communities In Urban Spaces To Achieve Thermal Comfort”**, Abd Allah Shokry, Matria Engineering Faculty, Helwan University.
- Ph.D. dissertation about: **“A Methodology to Achieve Sustainability In Multi-Model Transit Hup Buildings”**, Sarah Abd ElHady, Matria Engineering Faculty, Helwan University.
- - M.Sc. thesis about: **“Design Criteria for Green Carbon Neutral Primary Schools”**, Heba Salah, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Courtyards Role to Achieve Hospital Sustainability in Egypt”**, Mohammed Saaed, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Sustainable Reuse of Heritage Buildings and Its Impact on Urban Renewal in Light of Technological Developments”**, Morsy Akle, Matria Engineering Faculty, Helwan University.

M.Sc. thesis about: **“A Framework to Optimize the Performance of High-Rise Building by Generative Design”**, Norhan Ali, Matria Engineering Faculty, Helwan University.

- M.Sc. thesis about: **“A Strategy to Achieve Sustainability in Hospitals Using Environmentally Friend Materials”**, Tarek Mohamed Ali, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Analytical Study for The Vegetated Walls of Administrative Buildings In Enhancing The Sustainability Of Hot Climate Regions”**, Menna Tallah El Arabi, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Egyptian Identity in Low Carbon Footprint Educational Buildings”**, Rehab Rabea Mohammed, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Sustainable Children Centers as Catalyst for Pro Environmental Behavior”**, Sarah Wesam, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Analytical Study for Sustainable Lighting Design In Hospital”**, Merna Raafat, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Sustainable Reuse of Heritage Buildings and Its Impact in Urban Renewal in Light of Technological Developments”**, Morsy Akel Morsy, Matria Engineering Faculty, Helwan University.
- M.Sc. thesis about: **“Courtyards Role to Achieve Hospital Sustainability in Egypt”**, Mohammed Saied, Matria Engineering Faculty, Helwan University.

Participations in Competitions:

- 2nd place with CDG team at “Green Housing” competition, Ministry of Housing, 2024
- Took part as a participant in student workshop and measuring campaign on “Urban Heat Island, Heat Wave and Human Thermal Comfort”, Institute of Metroorology at TU-Berlin Campus El Gouna, DAAD. 2018
- 3rd Honorable place at Zero Energy Residential Unit (ZERU) Competition, Faculty of Engineering, Ain Shams University, 2018
- Participating in The Iconic Mosque at Dubai Creek Harbor, competition, Eamar, 2018.

HONORS AND WARDS:

August 2022. Climate Action Leader

August 2022 was awarded to be Climate Action Leader for the volunteering work in increasing the awareness about climate change, sustainable practices, inform, inspire and support climate action within my community and networks.

May 2022. Climate Ambassador

May 2022 graduated from **“Training Program to Train Africans and Egyptians Climate Ambassadors”**, supported by Faculty of Graduate Studies and Environmental Research, Ain Shams University and the United Nations for Climate Change and honored to be Climate Ambassador.

2020. Appreciation certificate

The appreciation certificate is given for participating in Lamasat Art Gallery in the first online exhibition for freehand sketches, I participated with more than 8 freehand sketches which represent modern and classic buildings.

2018. Third honorable prize

It is awarded by ZERU International competition, for designing zero energy residential unit by using local technique, local technology and local material in Egypt.

2016. Excellence education

It is awarded by Al Qalam Arabic school at Sherbrooke, Qc, Canada, for being a Volunteer from 2013-2016 for teaching Arabic for Canadians and international students.

2003. Distinguished Student

It is awarded by Helwan University due to the educational progress, general knowledge, and community and social service.

PROFISSIONAL SKILLS

- Understanding of sustainability principles as applied in the build environment, including the areas of energy and carbon (Net Zero Emissions).
- Experience of working in real estate and infrastructure (masterplan).
- Awareness of environmental legislation and sustainability issues in region.
- Understanding of net zero principles, including carbon assessment, monitoring, and reporting.
- Experience of working in multi-disciplinary teams on projects.
- Experience of working throughout the lifecycle of projects.
- Understanding of sustainability accreditation methods such as LEED.

PERSONAL SKILLS

- **Communication:** High quality service delivery, communications, and ways of working with others. Excellent communication including writing and presentation skills.
- **Collaboration:** very collaborative, help the team work smoothly and effectively. managing the priorities of all team members, understanding different perspectives, and satisfying the team's expectations by completing all assigned tasks on time and to a high standard.
- **Conflict resolution:** I can find peaceful solutions to disputes with colleagues, customers or apply them to mediate with other parties.
- **Problem-solving:** able to help in resolving problems involving other people.
- **Diplomacy:** I understand the way others feel helps diplomatic employees speak tactfully in challenging conversations, also help employees negotiate.
- **Leadership:** ability to manage projects and teams of employees. Also, help teams work cohesively together for the most successful outcomes. Adopt a leadership style that supports my team members and offers them clear directions.

LANGUAGE LEVEL:

English: Flaunt - French: advanced - Arabic: Mother tongue.