

Ashraf Ragheb, PhD

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RESEARCH INTERESTS

Environmental Impact of Bldgs and Materials: Env Performance using Life Cycle Assessment LCA
Energy Efficiency in Buildings: Life Cycle Energy Analysis LCEA
Renewable Energy Technology: Especially Building Integrated Renewable Systems
Building Systems Integration: Design, Structures, and HVAC Systems
Sustainable Building Systems: Enclosure and HVAC Systems for Optimum Bldg Performance

EDUCATION

- 2010 **Doctor of Philosophy (Ph.D.) in Architecture: Building Technology**
Title: "Towards Environmental Profiling for Office Buildings Using Life Cycle Assessment LCA"
University of Michigan, Ann Arbor.
- 2003 **Master of Science in Architecture**
Major: Buildings Technology. Minor: Industrial Ecology
University of Michigan, Ann Arbor.
- 1992 **Bachelor of Science in Architectural Engineering – with "Distinction"**
College of Engineering,
Ain Shams University, Cairo, Egypt

ACADEMIC APPOINTMENTS

- 2012- present **Associate Professor with Tenure**
College of Architecture and Design, Lawrence Technological University, MI
- 2006- 2011 **Assistant Professor**
College of Architecture and Design, Lawrence Technological University, MI
- 2005- 2006 **Assistant Professor**
School of Architecture & Urban Planning, University of Wisconsin, Milwaukee, WI
- 2004- 2005 **Lecturer**
School of Architecture + Urban Planning, University of Michigan, Ann Arbor.
- 1995- 2000 **Lecturer**
Helwan University, Cairo, School of Engineering, Architectural Engineering Dept.

GRANTS AWARDED

- 2009 **American Institute of Architects AIA – Upjohn Research Grant Recipient**
Principal Investigator – "Cradle to Grave: Case Studies of Buildings' Environmental Footprint", \$30,000 grant.
- 2007 **Lawrence Tech – Faculty SEED Grant Recipient**
Principal Investigator - "Cradle to Grave: A Sustainable Materials Database", \$ 7,000 grant.
- 1999 **National Academy of Science & Technology, Cairo**
Co-Investigator through Helwan University: Effect of Volatile Organic Compounds (VOC) Materials on the human well being and productivity in work environment, \$ 20,000 grant

GRANTS PROPOSALS

- 2014 **National Science Foundation NSF, *Measuring Sustainability in Buildings: An LCA Model to Evaluate Environmental Performance of Sustainable vs. Conventional Designs***, A proposal submitted for \$198,000 funding to NSF- PD-12-7643 Program. Resubmit after feedback: second phase.

BOOK PROPOSALS

Building-Integrated Renewable Energy Systems, Routledge. In progress for a contract.

RESEARCH WORK CITED

2013 Groat, L., Wang, D., *Architectural Research Methods*, 2nd. Ed., New York: Wiley. p. 437

MEDIA INTERVIEWS

2016 Detroit Free Press. Gave an expert opinion on non-completion of Wayne county jail project, and how safe is the building structure after being exposed to the elements for long time.

2008 WXYZ Detroit. Gave an expert opinion on energy efficiency and construction problems with recently constructed subdivision in New Baltimore, MI

SELECTED PUBLICATIONS – PEER REVIEWED

2020 Ragheb, A., “*A Framework to Reduce Dust Problems on PV Modules in the US Climatic Zones*”. Proceedings of SOLAR 2020 Int’l Conference, American Solar Energy Society ASES, Washington DC (virtual), June 23-26.

2019 Ragheb, A., “*Environmental Performance Evaluation of Roof Systems Alternatives in Office Buildings in the U.S.*”. Proceedings of ARCC’ 2019 Int’l conference ‘Architectural Research for Sustainable Community’, Ryerson University, Toronto, Canada, May 29-June 1 .

2018 Ragheb, A., “*Materials Choices Matter: An LCA Evaluation of a LEED Certified Building*”. Proceedings of ARCC-EAAE’ 2018 Int’l conference ‘Architectural Research for Sustainable Community’, Temple University, Philadelphia, PA, May 16-19.

2016 Ragheb, A., “*A Comparative Eco-balance Evaluation of Materials Choices of a Typical Building vs. An Energy Efficient*”. Proceedings of Passive and Low Energy Architecture (PLEA) Int’l Conference, Los Angeles, CA, July 11-13, 2016.

2014 Ragheb, A., “*Impact of Dust on Photovoltaic Efficiency in the US: Research Challenges and Mitigation Recommendations*”, Proceedings of SOLAR’ 2014 Annual Conference, American Solar Energy Society ASES, San Francisco, CA, July 6-10, 2014.

2013 Ragheb, A., “*Environmental Impact Matters: An Approach to Sustainability Using Life Cycle Assessment LCA*”, Proceedings of Bldg Technology Educators’ Society Conference, Roger Williams University, Bristol, RI, July 2013. ISBN 978-0-9895980-0-2.

2013 Ragheb, A., “*Metrics for Buildings or Building of Metrics: A Comparison of Environmental Footprint of the Traditional vs. the Renewable in Office Buildings*”, Proceedings of SOLAR’ 2013 Int’l Conference, American Solar Energy Society ASES, Baltimore, MD, April 17-20, 2013.

2011 Ragheb, A., “*A Dimension to Sustainability: A Life Cycle Assessment Approach to Adapt Environmental Performance in Medical Offices*”, Proceedings of Architecture in the 4th Dimension Conference: Methods + Practices for a Sustainable Bldg Stock, Boston, MA, Nov. 15-17, 2011.

2011 Ragheb, A., “*From a Consumer Product to a Complex Building: A Quantitative Approach to Sustainability Using Life Cycle Assessment LCA*”, Proceedings of ARCC’ 11 annual conference ‘Reflecting upon current themes in Architectural Research’, Lawrence Tech University, Detroit, MI, April 20-24-2011. ISBN 978-1-257-32189-6

2009 Ragheb, A., “*Closing the Implementation Gap: A Critical Model for Architectural Research*”, Proceedings of ARCC’ 09 annual conference ‘Leadership in Architectural Research: Between Academia and Profession’, University of Texas, San Antonio, TX, April 15-18. ISBN 978-1-935129-15-8

2005 Ragheb, A., "Towards Future of Our Buildings: Design for Recycling and Deconstruction", Proceedings of Building Futures Council (BFC) conference, Las Vegas, NV, March 2005.

NON PEER REVIEWED

2003 Ragheb, A., "Towards Sustainable Building Materials", Urban Technological and Environmental Planning (UTE) Symposium, April 2003. College of Architecture + Urban Planning, Univ. of Michigan, Ann Arbor.

2002 "Sustainable University of Michigan", Midwest Association of Higher Education Facilities Officers (MAPPA) Annual Meeting and Educational Conference, Ann Arbor, MI, Oct 2002

2002 "Green Architecture: Goals and Strategies", American Institute of Architects, Detroit Chapter, Continuing Education Fest, Detroit, MI, March 02

1997 Ragheb, A., "Streets in Medieval Cairo", *World of Construction* (6) 3, pp 24-29, Cairo.

1996 Ragheb, A., "Preparing Future Architect", *World of Construction* (5) 2, pp 5-9, Cairo.

1995 Ragheb, A., "Man-Environment Interrelationship: A Qualitative Street Survey in Historical Cairo", Unpublished manuscript, Dept of Arch., Ain Shams Univ., Cairo. Part of the Masters' Prog reqs

SCHOLARLY PRESENTATIONS

2020 Solar 2020, American Solar Energy Society ASES Int'l Conference, Washington DC

2019 Architecture Research Center Consortium ARCC-EAAE Int'l Conference, Toronto, Canada

2018 Architecture Research Center Consortium ARCC-EAAE Int'l Conference, Philadelphia, PA

2016 Passive and Low Energy Architecture PLEA Int'l Conference, Los Angeles, CA.

2014 Solar 2014, American Solar Energy Society ASES Int'l Conference, San Francisco, CA

2013 Solar 2013, American Solar Energy Society ASES Int'l Conference, Baltimore, MD

2012 SOS Sustainability Conference 2012 - Invited Presenter, "Renewable Energy Matters", Seminars in Sustainability, Lawrence Technological University in partnership with the Engineering Society of Detroit, October 5-6, 2012

2011 SOS Sustainability Conference 2011 - Invited Presenter, "Creating Regional Detroit's First Net Zero Energy Community", State of Sustainability in Michigan, Lawrence Technological University in partnership with the Engineering Society of Detroit ESD, February 22-25, 2011

2010 AIA National Convention, Miami, FL
Keynote Speaker, Research Session 1 – Presentation on the outcome of awarded Upjohn Grant

2010 Architectural Research Centers Consortium (ARCC) 2010 Int'l Conference
Conference Keynote Speaker, Howard University, Washington D.C.

OTHER PRESENTATIONS

2018 **Construction & Specifications Institute CSI**,
Invited Speaker: Annual Meeting, Detroit, MI

2014 **Construction & Specifications Institute CSI**,
Invited Speaker: Annual Meeting, Detroit, MI

2010 **Ann Arbor Architecture Collaborative (A3C)**
Invited Speaker: Environmental Impact of Buildings: A new paradigm of environmental performance.

2006 **International Masonry Institute IMI**
Invited Speaker: Masonry Construction vs. Energy Efficiency, Milwaukee, WI

AWARDS + HONORS

- 2015 **Richard H. Edwards II Education Award**, U.S. Construction and Specifications Institute.
- 2012 **Academic Cooperation Award**, U.S. Construction and Specifications Institute.
- 2010 **Richard H. Edwards II Education Award**, U.S. Construction and Specifications Institute.
- 2009 **Distinguished Faculty Award**, Masonry Institute of Michigan.
- 2010 **Rackham Dissertation Grant Award**
- 2005 spring **Beginning Teaching Fellowship**, School of Architecture, University of Michigan, Ann Arbor
- 2004 **Michigan Teaching Fellow**, Rackham School of Grad Studies and Center of Research on Learning and Teaching (CRLT), University of Michigan, Ann Arbor
- 2000-2004 **Full Scholarship to study PhD at University of Michigan**, Ministry of Higher Education, Egypt
- 2000 **Distinguished Faculty Award**, Helwan University, Cairo, Egypt.
- 1994 - 99 **Won a First Place in several architectural Competitions for Residential/Commercial Buildings in Cairo.** Drawings and Presentations available upon request
- 1991 **First Honor Degree (Suma cum laude) in Bachelor's degree for distinguished student upon graduation as top 3 of class**, School of Engineering, Ain Shams University, Egypt.
- 1986 - 1991 **Scholarship of Distinction: full tuition and monthly stipend for 5 consecutive years of undergraduate study**, College of Engineering, Ain Shams University, Egypt.

PROFESSIONAL EXPERIENCE – As Architect / Architectural Engineer

- 1998-2000 **Planning and Urban Development “PUD” Consultants, Cairo**
PROJECT ARCHITECT / DESIGN TEAM LEADER,
- Urban design and planning of tourist resorts; Designing ambassadors' residences in Europe; Landscaping schemes and design of residential units of the resorts as well as public buildings.
- PROJECTS:** Fayrouz Hilton Hotel, Sharm El Sheikh Resort, Sinai, Egypt; Residence of Egyptian Ambassador in Berlin; Rainbow Resort, Red Sea, Egypt.
- 1995-1998 **MS Consultants - Architects, Planners, Engineers, Cairo.**
DESIGN TEAM LEADER,
- Designing several residential and commercial buildings in some luxurious districts of Cairo; guiding a team of 5 in winning several architectural competitions; Coordinating the team members in design development and bidding documents phases of all projects.
- PROJECTS:** Luxurious Residential Building on the Nile, El Rouda, Cairo; Luxurious Residential Building on the Nile, Zamalek, Cairo; Residential/Commercial Complex, El Kobba, Cairo; Residential/Commercial Complex on the Mediterranean, Alexandria, (All 1st. Place competitions)
- 1993-1995 **Engineering Consultants Group (ECG), Cairo**
PROJECT ARCHITECT,
- Designing public buildings in coordination with some US consultants; Designing, construction, and systems based on American Codes.
- PROJECTS:** Soma Bay Sheraton Hotel, Red Sea, Egypt, In coordination with WATG Consultants, Honolulu, HI; Refinery Jetty Office Building, Abu-Dhabi National Oil Co. (ADNOC), UAE.
- 1991- 1993 **Dar El-Handasah Consultants, London, Cairo(Current partner of Perkins & Will, Chicago, USA)**
PROJECT ARCHITECT
- Designing public buildings in coordination with U.S, U.K consultants; Designing construction drawings and details according to International/American Bldg Codes.

PROJECTS: Central Region Planning of Beirut, Lebanon; Heliopolis Sheraton Hotel, Int'l Cairo Airport, Central Region Planning of Riyadh, KSA. In coordination with *Perkins & Will*, Chicago, USA

PROFESSIONAL MEMBERSHIP

- 2012- present American Solar Energy Society (ASES)
- 2012- present Building Technology Educators Society (BTES)
- 2008- present American Institute of Architects (AIA), Associate member.
- 2008- present ATHENA Sustainable Materials Institute
- 2006- present U.S. Green Building Council (USGBC, Detroit)
- 2002- present Society of Building Science Educators (SBSE)
- 2003- present University of Michigan Alumni Association.
- 1991- present Egyptian Institute of Engineers,
Registered Engineer, licensed to practice in Egypt
- 1992- present Egyptian Association of Architects (EAA),
Registered Architect, licensed to practice in Egypt

ACADEMIC SERVICES

UNIVERSITY SERVICE

- 2012- 2018 **LTU Faculty Senator**, Senate Treasurer & Representative of College of Architecture & Design
- 2012- present **LTU - USGBC Student Chapter** - Founder and current Faculty Advisor.
- 2008- present **LTU - Center for Sustainability**- Research and teaching affiliate.
- 2007- 2014 **LTU - Assessment Committee** – Representative of College of Architecture & Design.
- 2007- 2010 **LTU Honor Committee** – Representative of College of Architecture & Design.

COLLEGE/DEPARTMENT SERVICE

- 2019- present **Faculty Council** – College of Architecture & Design, LTU
- 2017- present **Structures Coordinator** - College of Architecture & Design, LTU
- 2019 (fall) **Mid-Tenure Committee Chair** - College of Architecture & Design, LTU
- 2006- 2016 **Building Systems Coordinator** - College of Architecture & Design, LTU
- 2008- present **International Students Credentials Assessment** – Technical courses equivalency evaluation, College of Architecture & Design, LTU
- 2006- present **Student Academic Advisor** – Average of 25 students each semester, College of Architecture & Design, LTU
- 2014 **Architecture Faculty Search Committee** – College of Architecture & Design, LTU
- 2009- 2012 **Technology Integration Task Force** - College of Architecture & Design, LTU
- 2008- 2013 **Curriculum Committee** - College of Architecture & Design, LTU

- 2008- 2010 **Lecture Series Committee** – College of Architecture & Design, LTU
- 2007- 2009 **Faculty Council** - College of Architecture & Design, LTU
- 2002-2004 **Doctoral Advisory Committee** – Student member, College of Architecture & Urban Planning, University of Michigan
- 2002-2004 **Lecture Series Committee for the Doctoral Program**– College of Architecture & Urban Planning, University of Michigan

OTHER SERVICE

- 2003-2004 **Recycle Ann Arbor** – Board Member (a nonprofit, community-based organization active in reuse, recycling, resource conservation), Ann Arbor, MI
- 1998 **Graduate Library, Ain Shams Univ, Cairo** - Upgrading & computerizing the dissertations library.

PROFESSIONAL SERVICES

- 2016-present **Passive and Low Energy Architecture (PLEA)** - Member - Conference Technical Review Committee, Papers and Abstracts Reviewer.
- 2011-present **Architectural Research Center Consortium (ARCC)** - Member - Conference Technical Review Committee, Papers and Abstracts Reviewer.
- 2013 - present **American Solar Energy Society (ASES)** - Member - Conference Technical Review Committee.
- 2010 **ATHENA Sustainable Materials Institute** - Research consulting member on software development for academia.
- 2011 **Architectural Research Centers Consortium ARCC 2011 Conference**
Lawrence Technological University, Detroit, MI, April 2011
Session Moderator, Session 01.1: Cultural Landscapes; Session 05.2: Approaches and Advances in Materials (AIA - CEU); Session 08.1: Sustainability: historical context (AIA - CEU)
- 2010 **Architectural Research Centers Consortium ARCC 2010 Conference** - Panel Moderator, Panel 102, Howard University, Washington D.C. June 2010
- 2004 **Solar Decathlon** – Environmental performance evaluation, and systems design, School of Architecture & Urban Planning, University of Michigan, Ann Arbor
- 1997-2000 **Editor** – Architecture Dept Magazine - Annual Publication, Helwan University
Editing student projects and materials to be published by the department.

EXHIBITIONS + JURIES

- 2007 - present **Juror- Oscar & Lynn Freimann Construction Dwgs Competition** – Team of 5 from greater Detroit area consultants: Albert Khan, Neumann Smith, Rossetti, Smith Group, College of Architecture & Design, Lawrence Tech University
- 2012 - present **Juror- “Fine Grain” Best Studio Work (All Levels)** – Honor work to be awarded money and displayed at Gallery for visitors and prospective students, College of Architecture & Design, Lawrence Tech University
- 2011 - fall **Invited Juror: Undergraduate Reviews** – University of Detroit Mercy
- 2005-10 **Invited Juror: Grad/Undergrad Reviews** – invited in many design/sustainability studios final jury at University of Michigan, University of Wisconsin Milwaukee, Lawrence Tech. University

- 2002 **Grad Students Exhibition: Masters' Honored Work** - TCAUP Gallery, University of Michigan, Ann Arbor
- 2002 **Organizer** - Nichols Arboretum, Ann Arbor
Participated in organizing students' projects of upgrading the Arboretum buildings in the "*Ecology and Architecture*", a joint exhibit of College of Architecture and the Arboretum.
- 1998-99 **Graduation Projects Invited Juror** – Arch Dept, College of Engineering, Ain Shams Univ., Cairo

PROFESSIONAL DEVELOPMENT

- 2015 **Building Enclosure Council** – 7th Annual Symposium, Vista Tech Center, Livonia, MI. Oct 13
- 2013 **Building Enclosure Council** – 5th Annual Symposium, Schoolcraft College, Detroit, MI. Sept 29
- 2011 **Building Enclosure Council** – 3rd Annual Symposium, Schoolcraft College, Detroit, MI. Oct 18
- 2006 **The Masonry Society (TMS)** - University Professors' Masonry Workshop (UPMW), Portland State University, Portland, OR. March 26-28

COURSES TAUGHT

Lawrence Tech University

Graduate:

Architecture

- ARC 5013: Research Methods
- ARC 5592: Sustainable Building Systems
- ARC 6003: Sp Topics: Computer Simulation in Bldg Technology
- ARC 6003: Sp Topics: Advanced Bldg Technology
- ARC 6881: Directed Studies (Research in LCA and Renewable Energy Systems)
- ARC 6524: Thesis I and II (Architecture & Interior Architecture)

Undergraduate:

Architecture

- ARC 2513, ARC 5523, ARC 5543: Basic, Intermediate, Advanced Structures.
- ARC 2843, ARC 3843: BIM Fundamentals, BIM for Bldg Systems
- ARC 4126: Comprehensive Design Studio - Lab
- ARC 3116: Integrated Design Studio 3 - Lab
- ARC 2313: Construction Systems I
- ARC 2323: Construction Systems II

Architectural Engineering

- EAE 3014: Arch Eng Studio 1 – Focus: Wood, Ecology, Site Landscape, Sustainable Materials
- EAE 3024: Arch Eng Studio 2 – Focus: Steel, Long Span, Electrical Sys, Lighting/Daylighting
- EAE 4026: Arch Eng Studio 3 – Focus: Concrete, Energy Efficiency, Enclosure, HVAC Systems

University of Wisconsin, Milwaukee

- ARCH 301: Arch. Structures & Construction I
- ARCH 311: Arch. Structures & Construction II
- ***Graduate:***
- ARCH 790: Sustainable Bldg Technology

University of Michigan, Ann Arbor

- ***Graduate:***
- ARCH 575: Building Ecology
- ARCH 585: Advanced Building Technology

Helwan University, Cairo

- Integrated Design Studio (Capstone)
- Visual Design and Composition
- Building Construction I & II

- Structures Systems for Architects
- Construction Drawings Fundamentals
- Building Control Systems

COMPUTER SIMULATION PROGRAMS

- Energy Simulation Software: eQuest, Energy Plus, Energy10, Insight 360 (BIM based simulation)
- LCA Software: ATHENA, SimaPro, Tally (BIM based LCA)
- Architecture Software: Climate Consultant, BuilderGuide, SunPath
- Auto Desk REVIT
- Auto CAD, all versions
- ArcView GIS, LightScape, Photoshop
- C++ programming

LANGUAGES

English	Native or Bilingual Proficiency
Arabic	Native or Bilingual Proficiency
French	Fair (reading – writing)

INTERESTS

- Building architectural models and crafts.
- Coloring with Air Brush
- Pen and Ink Renderings of Bldgs Interiors and Exteriors
- Playing Table Tennis, Chess, and Billiard professionally