

NADA TARKHAN

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EDUCATION

- May 2016 **Harvard University, Graduate School of Design**, Cambridge, MA, USA
Master in Design Studies (MDes), Energy and Environments
- Jun 2012 **American University in Cairo (AUC)**, Cairo, Egypt
BSc. Architectural Engineering
Major GPA: 3.90/4.0 Cumulative GPA: 3.83/4.0 , Summa Cum Laude
- Jun 2007 **Jeddah Prep and Grammar School, British and Dutch School**, Jeddah, KSA
International General Certificate for Secondary Education (IGCSE), 117.5%

HONORS & AWARDS

- Mar 2018 Kate Goldstein Scholarship for Emerging Professionals, NESEA, Boston, USA
- Sep 2014 Arab Republic of Egypt Fellowship, Ministry of Finance, Cairo, Egypt
- Jun 2014 Aga Khan Fellowship Awardee
- May 2014 Al Mu'alleem Mohamed Scholarship Awardee, Harvard
- Jun 2012 Highest GPA of Class, Highest Honors, AUC
- Feb 2008- Jun 2012 Dean's List of Honors & First Category Scholarship, AUC

PROFESSIONAL EXPERIENCE

- Sep 2016- Mar 2019 **Sustainability & Building Physics Consultant, ARUP**, Boston, USA
Selected Projects:
- Yale Peabody Museum of Natural History, New Haven- LEED Consultant
 - Harvard Smith Campus Center, Cambridge- Energy Modeler
 - Suffolk Downs Redevelopment, Boston- Energy Modeler & PassiveHouse Consultant of 16 million ft² plan
 - World Trade Center, Boston- Parametric Energy and Daylight Modeler
 - Terminal E Expansion, Boston- Daylight, Climate and Radiation Analyst
 - Arup Boston Office- Lead Fitwel Consultant, WELL & LEED Consultant
 - Arup Los Angeles Office- Parametric Lightshelf Analyst
 - Isenberg School of Management & WPI Innovation Studio, Amherst- LEED Consultant
 - Progress Software HQ, Boston- Daylight and Equivalent Melanopic Lux (EML) Analyst
- Tool Development and Research*
- Developed Excel Tool to assess feasibility of retrofit strategies across the Veterans Associates Portfolio
 - Led and organized the Building Physics Regional calls to share knowledge from projects and tools in Arup
 - Data Management in Large Scale Portfolio Projects across all Arup offices
 - Sensor-based IoT Post Occupancy Evaluation of Arup Boston Office
 - Framework for Understanding Uncertainty in Energy Modelling Stages and Methodologies
 - Key Performance Metrics for defining and measuring Wellness strategies in the workplace
 - Project Manager on the Global Research Challenge Arup- MIT Sustainable Design Lab Collaboration, Project: Building Integrated Agriculture
- Sep 2013- Aug 2014 **Assistant Analyst and Project Manager, Jones Lang Lasalle**, Cairo, Egypt
- Worked with strategic consulting department to set requirements for Office buildings
 - Organized weekly project progress reports and construction meetings
 - Led design review meetings and project scheduling sessions in Project Development services Department
 - Carried out Tender evaluations and issued RFPs (Request for Proposals)
- Jan - Feb 2012 **Architectural Intern, Urban Phenomena Design Studio**, Jeddah, KSA
- Prepared concept and image branding documents for woodworks company
 - Composed scheme for facade terracotta renovation of existing Office building
- Jun- Jul 2011 **Architectural Intern, Dar al Handasa**, Cairo, Egypt
- Modeled facade elements for the Makkah Mosque extension project in Saudi Arabia
 - Developed construction drawings for connecting bridges to service building

CERTIFICATIONS & PROFESSIONAL AFFILIATIONS

- Sep. 2017- Present **Passive House Institute US (PHIUS)**, Certified Passive House Consultant
- Sep. 2013-Present **Society of Egyptian Architects (SEA)**, International Union of Architects (UIA) Member
- Sep. 2013-Present **Egyptian Syndicate of Engineers**, Licensed Architect
- Sep. 2013-Present **Federation of Arab Engineers**, Licensed Architectural Engineer

TEACHING AND RESEARCH EXPERIENCE

Spring 2017- Fall 2019

Northeastern University, Architecture School

Adjunct Professor, ARCH 2250: Introduction to Sustainable Design in Architecture

Fall 2014-Spring 2016

Harvard University

Graduate School of Design

Research Assistant, researched metrics for early stage energy analysis and daylight health impacts

Teaching Assistant, Environmental Systems in Architecture, SCI-06125

Digital Media Workshops Instructor; Daylighting simulation using DIVA, Climate Analysis Software

Spring 2016, Fall 2015

Extension School & Business School

Guest Lecturer and Workshop Instructor, use of daylighting simulation in design, ENVR E-119C High Performance Buildings for Occupant Wellbeing

Energy Simulation Assistant, Executive Education in the Real Estate Management Course

Fall 2012- Spring 2013

American University in Cairo, Architectural Engineering School

Teaching Assistant, Thesis 1 and Thesis 2 Graduation Project

Teaching Assistant; Digital Parametric Design, Architecture and Human Behavior

SLIDES (Sustainable Livable Interactive Design Lab), Research Assistant in Solar Decathlon Project, China

GUEST LECTURES AND ARCHITECTURE REVIEWS

Fall 2018, Spring 2018

Portfolio Reviewer - Harvard Graduate School of Design, Advanced Studio - Boston Architectural College

Fall 2017

ARCH 1120, 5210 - Fundamental Architectural Design, Environmental Systems - Northeastern University

Summer 2016, Spring 2016

ARCH 2100 - Studio 02 - Northeastern University, ARCH 3000 - Studio 03 - Wentworth Institute of Technology

Spring 2014, Fall 2015

ARCH 2260, 2000 - Building Systems, Studio 2 - Northeastern University

PUBLICATIONS AND CONFERENCE PRESENTATIONS

Oct 2018

Urban Land Institute, Building Healthy Places Interest Forum (Randall Lewis), Presenter on Wellness in design and POE Study in Arup Boston Office, Boston

Sep 2018

Tarkhan N., "The Development of an Indoor Environmental Monitoring Framework for Post-Occupancy Evaluation using Real-time Web-tools", Proceedings of Building Simulation 2018, 26 September, Chicago: USA

Aug 2017

Tarkhan N., Singhvi A., "Integrated Occupant Motion Sensing With Real-Time CFD Simulation As a Design Assessment Tool" Proceedings of Building Simulation 2017, 07 August, San Francisco: USA

2019

Tarkhan N., Pease P. "A Framework for Understanding the Uncertainty Across Energy Modeling Stages and Methodologies, 2019 (In Preparation)

Tarkhan N., "Technological Trajectories: Assessing the Role of Sensing in Design", Scales of Sustainable Design in Architecture. Halifax: Dalhousie Architectural Press, 2019 (In Preparation)

EXTRACURRICULAR ACTIVITIES & INTERNATIONAL COMPETITIONS

Aug 2016

Exhibition Awardee, Boston Society of Architects Student Thesis Exhibition

Oct 2015

Artist, Illuminus Light and Technology Festival, Boston House of Blues, Fenway Park

• Designed a projection based installation of real-time airflow using CFD & occupant detection

Sep 2015- May 2016

Co-President, Club MEdiNA, Harvard Graduate School of Design

• Designed and coordinated the "12 instigation of the Middle East" exhibition in Gund Hall

Sep 2014- May 2016

Member, High Performance Design Club, Harvard Graduate School of Design

Sep 2014

Nominee, for Environmental Excellence, Energy Institute Award, London

Sep 2011 – Oct 2013

Project Manager and Technical Coordinator, Solar Decathlon Competition, AUC

• Headed the MEP simulation team for the design of a solar powered house

• Coordinated the architecture design and scheduling of a solar powered house

• Attended Energy Workshops in Spain and China and organized workshop with TU Delft Team

Sep 2012 – Oct 2012

Architect, Expo City 2015, Politecnico di Milano, Milan, Italy

• Worked on developing a proposal for the selected Pavilion designs of the Bio-mediterranean cluster

LANGUAGE AND COMPUTER SKILLS

Fluency in: written and spoken English and Arabic

Advanced knowledge of: Modeling and Drafting: AutoCAD, Rhino 3D, Grasshopper, Sketch Up, Revit (BIM), Adobe: Photoshop, Indesign, Illustrator, Premiere, Microsoft Office: Word, Excel, Powerpoint
Modeling and Simulation: DIVA for Daylighting, Therm, Design Builder Energy Plus, IES VE, UMI (Urban Modeling Interface), Millipede Structural Analysis, Honeybee, Ladybug, Galapagos

Computational Fluid Dynamics and Multiphysics Simulation: Flovent (CFD), COMSOL

Moderate user of: Unity 3D, Flow Designer CFD, Visual Studio, C++