

# Amir Tabadkani, Ph.D.

Design Automation Lead, Sustainability – Buildings Digital Practice



[amirtabadkani@yahoo.com](mailto:amirtabadkani@yahoo.com)

<https://www.linkedin.com/in/amirtabadkani>

(+61) 434717234

-Webpages-

<https://issuu.com/amirtabadkani/docs/esd-portfolio>

[https://www.youtube.com/channel/UCBQ\\_CIIIRD8X\\_ufBlgO\\_obEg](https://www.youtube.com/channel/UCBQ_CIIIRD8X_ufBlgO_obEg)

<https://github.com/amirtabadkani>

<http://ibpsa.sbu.ac.ir/our-board-of-directors/>

<https://scholar.google.com/citations?user=u5aYBpgAAAAJ&hl=en>

## Introduction

As a dedicated Sustainability-Focused Design Automation Lead, I am driven by a strong passion for promoting sustainable practices and building performance in the corporate landscape. Through my role, I spearhead task automation and develop web-based applications with a sharp focus on enhancing building energy efficiency and driving decarbonization initiatives. My mission is to leverage innovative technologies to streamline processes, optimize workflows, and empower teams to make data-driven decisions for building performance improvements. With unwavering commitment, I strive to inspire positive change, fostering a greener future that embraces renewable energy solutions and environmental stewardship. Together, let's pave the way for a cleaner, more sustainable world where every action counts in achieving our collective vision for a thriving planet.

## Education

2018-2021	<b>Doctor of Philosophy (PhD) in Architecture &amp; Built Environment</b> Deakin University, Australia
Thesis Topic	Towards a simulation-based operation of non-conventional adaptive facades in shared spaces – A Personalized Real-time Control (PRC)
Details	<ul style="list-style-type: none"><li>• This thesis aims to propose an innovative controlling approach as a proof-of-concept to personalize non-conventional adaptive façade incorporating individual preferences and energy saving potentials, based on simulations in a shared office environment.</li></ul>
Outcome	<a href="#">An Introduction to my PhD research - Annex79 6th symposium virtual meeting (Denmark)   September2020 - YouTube</a>
2012-2015	<b>Master of Science (MSc) in Architectural Engineering</b> Polytechnic University of Milan (POLIMI), Italy
Thesis Topic Details	<ul style="list-style-type: none"><li>• Innovative Bio-climatic European School Complex in Crete, Greece</li><li>• The thesis aims to criticize environmental aspects of a school in Heraklion, Crete Island, Greece and recommends practical energy-efficient principles and details inspiring from its context and passive strategies towards a bio-climatic design.</li></ul>
Outcome	<a href="#">Architectural Proposal of Master Thesis - Milan Politechnic, Italy - YouTube</a>
2007-2011	<b>Bachelor of Science (BSc) in Architectural Engineering</b> Azad University of Mashhad, Iran

## **Work Experience**

2023-now **Design Automation Lead, Sustainability – Buildings Digital Practice**, STANTEC, Australia

My Responsibilities:

- Researching and implementation various applications of design automation methodologies
- Leading and supporting the implementation of computational design
- Sustainability data scientist and analyst
- Developing web-based applications through Python and front-end libraries inside Microsoft Azure environment
- Pushing boundaries towards AI utilization and predictive models
- Assessing project needs and developing innovative workflows

Achievements:

- Developed in-house web-based toolkits
- Won the 2<sup>nd</sup> Place and ASHRAE Fan Favorite Award in the LowDown ShowDown Competition (<https://www.ashrae.org/conferences/topical-conferences/lowdown-showdown-winners>)
- Driving force to educate the staff towards automation
- Successfully utilized computational design for international sustainability projects

2021-now **Ph.D. Researcher**

As part of my hobbies, I publish academic articles to keep my knowledge up to date with specific research interests including:

- Human-centered control design of building interfaces,
- Personalized control systems in shared spaces using wearable devices,
- Web-based application programming,
- Computational and parametric design utilization in building performance,
- Artificial intelligence and machine learning integrations into occupant behavior modelling and predictions,
- Sophisticated building performance simulation (e.g., smart control programming),
- Prefabricated modular constructions

2023 **Computational Design Lead**, STANTEC, Brisbane, Australia

My Responsibilities:

- Leading the implementation of computational and generative design workflows through Grasshopper and Ladybug-Tools interfaces
- Supporting use of Grasshopper and Dynamo and Python programming language
- Sustainability Data Analyst
- Training team members across Stantec offices in Australia to utilize computational design workflows efficiently

Achievements:

- Developing an in-house “EPW Visualizer Toolkit” to analyse the weather file and generate analytical reports instantly as part of our deliverables,
- Developing an insulation markup automation through an in-house application,

- Implementing new workflows to accelerate the building energy modelling procedures massively through Pollination in Grasshopper/Rhino/Revit interfaces for Stantec offices globally,
- Conducted training sessions on energy/daylight modelling workflows using Ladybug-tools within the Grasshopper environment,

2021-2023 **Sustainability Consultant**, STANTEC, Brisbane, Australia

My Responsibilities:

- Leading innovative parametric energy/daylight/glare simulation algorithms aligned with Australian National Construction Code (NCC 2019) and Green Star rating scheme using Grasshopper and Ladybug-Tools interfaces
- Conducting building energy performance calculations including GHG emissions, and thermal comfort analysis based on Section J of the NCC2019 regulations
- Collaborating effectively with other engineering disciplines to ensure meeting the project deadlines
- Interpreting sustainability data and providing insights to inform business decisions

Achievements:

- Conducted building fabric optimisation studies to provide clients and architects with preliminary insights into various design options
- Assessed the energy performance of over 10 large-scale projects including warehouses, schools, universities, and offices, to ensure compliance with NCC2019 and/or GreenStar schemes
- Conducted highly detailed HVAC system simulations such as evaluating the indoor environmental quality based on CO2 sensors at a university scale or assessing the impact of outdoor fresh air flow rate/filter changes on energy consumption at a hospital scale
- Utilized advanced technical parametric modelling/scripts to improve the indoor visual comfort performance, such as glare risk assessment in swimming pools
- Developed advanced control scenarios for mixed-mode buildings using IES-VE modelling software

2021-now **Research Assistant**, DEAKIN University, Geelong, Australia

**Subject: Unlocking Geothermal Energy Utilization for High-performance Buildings**

This research is conducted through a collaboration with the Plumbing Industry Climate Action Centre (PICAC) in Melbourne as the premier ‘Centre of Excellence’ in training for the industry. (<https://www.picac.edu.au/about-us>)

My Responsibilities:

Optimizing the existing PICAC geothermal heat pumps through an integrated simulation-based workflow in addition to validating the results with monitored data

Achievement:

Published a Q1 research paper in Nature Scientific Report

2021 **Research Assistant**, DEAKIN University, Geelong, Australia

**Subject: Circular Economy Through Modular Construction: Developing Innovative Cellular Flooring System**

An industrial collaboration between Form Flow and Deakin University as an ARC linkage project.

My Responsibilities:

Analysing the building energy performance by applying a newly introduced cellular flooring prototype for Australian construction market

2020-2021 **Teaching Assistant**, DEAKIN University, Geelong, Australia

**Subject: Building Environmental Studies (SRT257)**

My Responsibilities:

Analysing the building energy performance by applying a newly introduced cellular flooring prototype for Australian construction market

2015-now **Co-Founder and Sustainability Consultant**, UPGREENGRADE CO., Mashhad, Iran  
([www.upgreengrade.ir](http://www.upgreengrade.ir))

About Company:

UPGREENGRADE consulting team has been founded in 2015 where it aims to educate the students and researchers in the field of sustainability and high-performance buildings in the first instance, and secondly, assist architects and clients to design energy-efficient buildings according to Iran's national building codes.

My Responsibilities:

- Researching on new methods for delivering sustainable solutions and insights
- Energy and daylight modelling of different design scenarios and their impacts on energy and daylighting performance in office and residential buildings
- Optimizing the initial design variables and target-based form-finding
- Calculating potentials of renewable energy sources like solar panel installations
- Collaborating with mechanical and electrical engineers for sizing air-conditioning systems and lighting
- Thermal bridging calculations and modelling
- Developing construction details of facade in terms of insulation, thermal bridges, and condensation risks

Achievements:

- Co-founding the 1<sup>st</sup> national forum for architects and practitioners (<https://upgreengrade.ir/forum>)
- Delivering optimum positions of the building mass with respect to the project demands
- Energy modelling of multiple ESD projects, including: 2-storey primary school building (18 classes), SADR international hotel, high-rise office building of Iranian Oil Company, Istanbul residential building
- Delivering well-daylit and glare-free environments in projects through shading systems
- Online teaching of energy and daylight simulation tools, including: EnergyPlus, Grasshopper plugins (Ladybug, Honeybee, and DIVA), Energy Management System, and Design Builder.

- Sustainable and energy-efficient design of a 24-storey residential building through:
  - Optimizing the building mass with regards to solar radiation studies,
  - Finding the optimum window-to-wall ratio, construction details and shading systems to enhance both daylight penetrations and energy-efficiency,
  - Detailed energy modelling and simulation,
  - Daylight simulations based on sDA, ASE and DF factors,
  - Thermal bridging calculations and condensation risk analysis,
  - Improving the energy performance by 20% comparing to the ASHRAE 90.1 (2010) baseline model

2012-2016 **Remote Architectural Designer**, NOMEL TOOS Executive Firm, Mashhad, Iran

Responsibilities:

- Facade design and delivering construction details
- Collaborating with structural and mechanical engineers
- Delivering architectural layouts from conceptual sketches to construction details
- Checking and editing drawings through a back-and-forth approach with structural and mechanical engineers.

2011-2012 **Architectural Assistant**, FARADID Architectural Group, Mashhad, Iran

Responsibilities:

- Interior designing and three-dimensional renderings
- Facade design and material selections

## **Awards and Honors**

2023 **ASHRAE LowDown ShowDown Competition (STANTEC)**

Second Place Winner and Fan Favorite Award

2021 **Annual Research Day Award (Deakin University)**

2021 **Graham Treloar Research Prize (Deakin University)**

As the best Higher Degree by Research student with publications in relation to embodied energy and sustainability in 2020

2021 **Early Career Research (ECR) Performance Support Fund (Deakin University)**

Publishing two Q1 cross-disciplinary publications in 2021 | Fund: AU\$1000

2018 **HDR Scholarship Winner for Doctoral Studies at Deakin University (DUPRS)**

2018 **Nearly-zero Energy Building Design – ZEB National Award, Iran**

Awarded 1<sup>st</sup> Prize | Amount: IR Rls. 15,000,000

<https://www.youtube.com/watch?v=3ls2PCik9kl>

2012 **Silver Scholarship Winner for Master Studies (Milan Polytechnic University)**

## **International Collaborations**

1. **Subject: International Building Performance Simulation Association of IRAN (IBPSA-Iran)**  
(<http://ibpsa.sbu.ac.ir/>)

- Collaboration with researchers including Dr. Zahra S. Zomorodian (Shahid Beheshti University, Iran), Dr. Mohammad Tahsildoost (Shahid Beheshti University, Iran), Dr. Mahdieh Abravesh (University of Tehran, Iran), and Dr. Mojtaba Mahdavinia (Tehran University of Art, Iran).
  - Achievements:
    - Committee Member
    - Active collaborations within education, training, and research scopes
  - Details: IBPSA-Iran was launched with the help of eight researchers across Iran including myself as the only overseas Iranian member and achieved the Iranian regional affiliate of the worldwide acting as *International Building Performance Simulation Association* ([www.ibpsa.org](http://www.ibpsa.org)). This association is linked to this association but acts as an independent organization which is launched recently and will start its activity by registering new members worldwide.  
[https://www.linkedin.com/posts/drucrawley\\_buildingperformance-simulation-buildingenergymodeling-activity-6887492437829292032-q\\_rx?utm\\_source=linkedin\\_share&utm\\_medium=member\\_desktop\\_web](https://www.linkedin.com/posts/drucrawley_buildingperformance-simulation-buildingenergymodeling-activity-6887492437829292032-q_rx?utm_source=linkedin_share&utm_medium=member_desktop_web)
2. **Subject: International Energy Agency’s Energy in Buildings and Communications (IEA-EBC) – Annex 79** (<https://annex79.iea-ebc.org/>)
- Collaboration with high scholars and well-reputed researchers including Dr. William O’Brien (Carlton University, Canada), Dr. Farhang Tahmasebi (University College London), Dr. Tianzhen Hong (Lawrence Berkeley National Lab, USA), and Dr. Julia Day (Washington State University, USA).
  - Achievements:
    - Presenting the PhD research in the 6<sup>th</sup> international symposium virtually in Denmark
    - Active contributor to three chapters of an open-source book entitled “Occupant-centric Simulation-aided Building Design” <https://doi.org/10.1201/9781003176985>
    - Publishing four high-quality review and research papers as part of the Annex activities
  - Details: Annex 79 conducts research studies focusing on “Occupant-centric Building Design and Operation” in four sub-tasks in which my activities are contributing to the 3<sup>rd</sup> sub-task entitled “Applying Occupant Behavior Models in Performance-based Design Process” to achieve high performance buildings
3. **Subject: International Energy Agency’s Energy in Buildings and Communications (IEA-EBC) – Annex 87** (<https://annex87.iea-ebc.org/>)
- Collaboration with Dr. Ongun Berk Kazanei, and Dr. Bjarne Olesen as annex operating agents from Technical University of Denmark
  - Achievements:
    - Participating in two workshops to prepare the annex proposal and subtask activities
    - Active participant in Subtask B and D
  - Details: Annex 87 conducts research studies focusing on “Energy and Indoor Environmental Quality Performance of Personalized Environmental Control Systems” in five sub-tasks in which my activities are contributing to the sub-task D entitled “IEQ and Energy Performance Evaluation” to assist developing new methodologies for modelling PECS in dynamic building simulations for performance evaluations

## **Registered US Patent**

<https://patents.google.com/patent/US20180216399A1/en?inventor=Seyed+Amir+Tabadkani>

**Smart Transformable Shading System Based on Different Climates**

**Publisher:** The United States Patent and Trademark Office (USPTO)

**Application NO.:** US20180216399A1

**Fund:** Grant Award of US\$9,500 by ‘The Organization of Support Fund of Technology and Researchers’, The Iranian Presidency

## **INNOVATION:**

Building envelope should be responsive to short-time weather changes and requires to be an adaptive interface as the main building interface within indoors and outdoors. This invention represents a new three-dimensional shading system that could be shaped in hundreds different functional configurations in a modular format on a building façade where it can act as a high-performance and smart interface. This system can potentially deliver an acceptable indoor thermal and visual environment for occupants while reducing the building energy consumption.

## **Research Publications**

### • **Journal Papers**

1. Khoshamadi, N., Banihashemi, S., Poshdar, M., Abbasianjahromi, H., **Tabadkani, A.**, Hajirasouli, A. (2023). Parametric and generative mechanisms for infrastructure projects. *Automation in Construction*, 154, pp. 104968 <https://doi.org/10.1016/j.autcon.2023.104968>, **SJR Q1**, Impact Factor: 10.5, 2<sup>nd</sup> top journal (out of 136) in Engineering, Civil
2. **Tabadkani, A.**, Haddadi, M., Abdollahi Rizi, R., Tabadkani, E. (2023). A hierarchical multi-purpose roller shade controller to enhance indoor comfort and energy efficiency. *Building simulation*, pp. 1-18, <https://doi.org/10.1007/s12273-023-1003-7>, **SJR Q1**, Impact Factor: 7.14
3. Zoleykani, M.J., Abbasianjahromi, H., Banihashemi, S., **Tabadkani, A.**, Hajirasouli, A. (2023). Extended reality (XR) technologies in the construction safety: systematic review and analysis. *Construction Innovation*, 69, pp. 106118, <https://doi.org/10.1108/CI-05-2022-0131>, **SJR Q1**, Impact Factor: 2.67
4. **Tabadkani, A.**, Nikkiah Dehnavi, A., Mostafavi, F., Ghorbani Naeini, H. (2023). Targeting modular adaptive façade personalization in a shared office space using fuzzy logic and genetic optimization. *Journal of Building Engineering*, 69, pp. 106118, <https://doi.org/10.1016/j.jobbe.2023.106118>, **SJR Q1**, Impact Factor: 7.14, 13<sup>th</sup> top journal (out of 136) in Engineering, Civil
5. Norouzasas, A., **Tabadkani, A.**, Rahif, R., Amer, M., Dijk, D., Lamy, H., Attia, S. (2023). Implementation of ISO/DIS 52016-3 for adaptive façades: A case study of an office building. *Building and Environment*, 235, pp. 110195, <https://doi.org/10.1016/j.buildenv.2023.110195>, **SJR Q1**, Impact Factor: 7.09, 6<sup>th</sup> top journal (out of 136) in Engineering, Civil
6. Li, HX., Okolo, DE., **Tabadkani, A.**, Arnel, T., Zheng, D., Shi, L. (2023). An integrated framework of ground source heat pump utilization for high-performance buildings. *Nature: Scientific Reports*, 13, pp. 106897, <https://doi.org/10.1038/s41598-023-27704-2>, **SJR Q1**, Impact Factor: 5.51
7. Aghasizdeh, S., **Tabadkani, A.**, Banihashemi, S., Hajirasouli, A. (2022). Environmental and economic performance of prefabricated construction: A review. *Environmental Impact Assessment Review*, 97, pp. 106897, <https://doi.org/10.1016/j.eiar.2022.106897>, **SJR Q1**, Impact Factor: 6.12
8. Attia, S., Bertrand, S., Cuchet, M., Yang, S., **Tabadkani, A.** (2022). Comparison of Thermal Energy Saving Potential and Overheating Risk of Four Adaptive Façade Technologies in Office Buildings. *Sustainability*, 14(10), 6106, <https://doi.org/10.3390/su14106106>, **SJR Q1**, Impact Factor: 3.25
9. Khaksar, A.R., **Tabadkani, A.**, Mofidi Shemirani, S.M, Hajirasouli, A., Banihashemi, S., Attia, S., Thermal comfort analysis of earth-sheltered buildings: The case of Meymand village, Iran. *Frontiers of Architectural Research*, <https://doi.org/10.1016/j.foar.2022.04.008>, **SJR Q1**, **SJR Q1**, Impact Factor: 1.81
10. **Tabadkani, A.**, Roetzel, A., Hong Xian, L., Tsangrassoulis, A. (2022). Simulation-based personalized real-time control of adaptive facades in shared office spaces. *Automation in Construction*, 138, pp. 10246, <https://doi.org/10.1016/j.autcon.2022.104246>, **SJR Q1**, Impact Factor: 10.5, 2<sup>nd</sup> top journal (out of 136) in Engineering, Civil

11. **Tabadkani, A.**, Aghasizdeh, S., Banihashemi, S., Hajirasouli, A. (2022). Courtyard design impact on indoor thermal comfort and utility costs for residential households: Comparative analysis and deep-learning predictive model. *Frontiers of Architectural Research*, <https://doi.org/10.1016/j.foar.2022.02.006> , SJR **Q1**, Impact Factor: 1.81
12. **Tabadkani, A.**, Roetzel, A., Hong Xian, L., Tsangrassoulis, A. (2021). Daylight in buildings and visual comfort evaluation: The advantages and limitations. *Journal of Daylighting*, 8, pp. 181-203, <https://doi.org/10.15627/jd.2021.16>, SJR **Q2**, Impact Factor: 2.05
13. **Tabadkani, A.**, Roetzel, A., Hong Xian, L., Tsangrassoulis, A., Attia, S. (2021). Analysis of the impact of automatic shading control scenarios on occupant's comfort and energy load. *Applied Energy*, 294, pp. 116904, <https://doi.org/10.1016/j.apenergy.2021.116904>, SJR **Q1**, Impact Factor: 9.74, 6<sup>th</sup> top journal (out of 143) in Engineering, Chemical
14. Hajirasouli, A., Banihashemi, S., Kumarasuriyar, A., Talebi, S., **Tabadkani, A.** (2021). Virtual reality-based digitization for endangered heritage sites: Theoretical Framework and Application. *Journal of Cultural Heritage*, 49, pp. 140-151, <https://doi.org/10.1016/j.culher.2021.02.005>, SJR **Q1**, Impact Factor: 2.95, 12<sup>th</sup> top journal (out of 43) in Spectroscopy
15. **Tabadkani, A.**, Roetzel, A., Hong Xian, L., Tsangrassoulis, A. (2021). Design approaches and typologies of adaptive facades: A review. *Automation in Construction*, 121, pp. 103450, <https://doi.org/10.1016/j.autcon.2020.103450>, SJR **Q1**, Impact Factor: 10.5, 2<sup>nd</sup> top journal (out of 136) in Engineering, Civil
16. **Tabadkani, A.**, Roetzel, A., Hong Xian, L., Tsangrassoulis, A. (2021). A review of occupant-centric control strategies for adaptive facades. *Automation in Construction*, 122, pp. 103464, <https://doi.org/10.1016/j.autcon.2020.103464>, SJR **Q1**, Impact Factor: 10.5, 2<sup>nd</sup> top journal (out of 136) in Engineering, Civil
17. **Tabadkani, A.**, Roetzel, A., Hong Xian, L., Tsangrassoulis, A. (2020). A review of automatic control strategies based on simulations for adaptive facades. *Building and Environment*, 175, pp. 106801, <https://doi.org/10.1016/j.buildenv.2020.106801>, SJR **Q1**, Impact Factor: 7.09, 6<sup>th</sup> top journal (out of 136) in Engineering, Civil
18. **Tabadkani, A.**, Tsangrassoulis, A., Roetzel, A., Hong Xian, L. (2020). Innovative control approaches to assess energy implications of adaptive facades based on simulation using EnergyPlus. *Solar Energy*, 206, pp. 256-268, <https://doi.org/10.1016/j.solener.2020.05.087>, SJR **Q1**, Impact Factor: 5.74, 38<sup>th</sup> top journal (out of 114) in Energy & Fuels
19. Soflaei, F., Shokouhian, M., **Tabadkani, A.**, Moslehi, H., Berardi, U. (2020). A simulation-based model for courtyard housing design based on adaptive thermal comfort. *Journal of Building Engineering*, 101335, <https://doi.org/10.1016/j.jobe.2020.101335>, SJR **Q1**, Impact Factor: 7.14, 13<sup>th</sup> top journal (out of 136) in Engineering, Civil
20. **Tabadkani, A.**, Valinejad Shoubi, M., Soflaei, F., & Banihashemi, S. (2019). Integrated parametric design of adaptive facades for user's visual comfort. *Automation in Construction*, 106, 102857. <https://doi.org/10.1016/j.autcon.2019.102857> , SJR **Q1**, Impact Factor: 10.5, 2<sup>nd</sup> top journal (out of 136) in Engineering, Civil
21. **Tabadkani, A.**, Banihashemi, S., & Hosseini, M. R. (2018). Daylighting and visual comfort of oriental sun responsive skins: A parametric analysis. *Building simulation*, 11, pp. 663-676, <https://doi.org/10.1007/s12273-018-0433-0>, SJR **Q1**, Impact Factor: 7.14
22. Banihashemi, S., **Tabadkani, A.**, & Hosseini, M. R. (2018). Integration of parametric design into modular coordination: A construction waste reduction workflow. *Automation in Construction*, 88, 1-12. <https://doi.org/10.1016/j.autcon.2017.12.026>, SJR **Q1**, Impact Factor: 10.5, 2<sup>nd</sup> top journal (out of 136) in Engineering, Civil



- **Conference Papers**

1. Hosseini, M.R., Banihashemi, S., Martek, I., **Tabadkani, A.**, Shrestha, A. (2017). Sustainable construction project management critical success factors for developing countries, in *CRIOCM 2017: Proceedings of 22nd International Conference on Advancement of Construction Management and Real Estate*, [Melbourne, Vic.], pp. 77-84
2. Banihashemi, S., **Tabadkani, A.**, & Hosseini, M. R. (2017). Modular coordination-based generative algorithm to optimize construction waste. *Procedia engineering*.
3. **Tabadkani, A.** (2016). Bio-climatic principles in cold semi-arid region: The case of Iran, 2<sup>nd</sup> International Conference and 3<sup>rd</sup> National Conference on New Technologies Application in Engineering

## **Presentations**

### **International**

**Presentation** | 6<sup>th</sup> International Symposium on Occupant Behavior (IEA-EBC Annex 79) **2020**

### **Australia**

**Presentation** | HDR Research Day, School of Architecture and Built Environment, Deakin University, **2021**

**Selected Key Speaker** | “Sustainable Research Showcase” (Australian Institute of Architects) **2021**

(<https://members.architecture.com.au/EventDetail?EventKey=CPD210528>)

### **Iran**

**Lecturer** | Binaloud Institute of Higher Education, Mashhad, Iran **[2016 - 2017]**  
*Unit: “Climatic Conditions Control & Environmental Conditions Control”*

**Presentation** | Ferdowsi University of Mashhad, Iran **2018**  
*Topic: ‘The role of simulators in building energy management decisions’ (2 hours)*

**Presentation** | Niroo Research Institute (NRI) Ministry of Energy, Iran **2017**  
*Topic: ‘The role of simulators in building energy management decisions’ (2 hours)*

**Presentation** | Khavaran University of Mashhad, Iran **2016**  
*Topic: ‘An introduction to building energy simulation tools’ (2 hours)*

## **Academic Journal Peer-Reviewer**

Source: <https://publons.com/researcher/3848958/amir-tabadkani/>

Building and Environment, SJR Q1, Impact Factor: 6.45

Energy and Buildings, SJR Q1, Impact Factor: 5.87

Solar Energy, SJR Q1, Impact Factor: 5.74

Journal of Building Engineering, SJR Q1, Impact Factor: 5.31

Building Simulation, SJR Q1, Impact Factor: 3.75

Journal of Building Performance Simulation, SJR Q1, Impact Factor: 3.36

Construction Innovation, SJR Q1, Impact Factor: 2.67

Architectural Engineering and Design Management, SJR Q1, Impact Factor: 2.19

Architectural Science Review, SJR Q1, Impact Factor: 1.99

Journal of Daylighting, SJR Q2, Impact Factor: 2.05

## Professional Associations

International Energy Agency's Energy in Buildings and Communications (IEA-EBC)

International Building Performance Simulation Association of IRAN (IBPSA-Iran)

## Licenses and Certifications

<b>Green Star Accredited Professional (GSAP) – Buildings</b>	<b>2022</b>
[Issuer: Green Building Council of Australia (GBCA)]	
<b>Certified Passive House Designer</b>	<b>2021</b>
[Issuer: Passive House Institute ( <a href="http://www.passivehouse.com">www.passivehouse.com</a> )]	
<b>Data Science for Construction, Architecture and Engineering</b>	<b>2020</b>
[Issuer: EDX e-learning (ID: <a href="#">e566e3046b1c4809b2d8365e544285d6</a> )]	
<b>SEB-AUDIT-Advanced Energy Audit and Simulation in Building by DesignBuilder</b>	<b>2016</b>
[Issuer: NEON AS and Design Builder Ltd (UK)]	
<b>Building Performance Analysis Certificate (BPAC)</b>	<b>2014</b>
[Issuer: The Autodesk Education Team]	

## Technical Skills

### **Building Performance Simulation/Analysis**

EnergyPlus & EMS	<i>Advanced</i>	Ladybug-Tools	<i>Advanced</i>
ClimateStudio	<i>Advanced</i>	Pollination	<i>Advanced</i>
Parametric Optimisation	<i>Advanced</i>	DAYSIM	<i>Advanced</i>
WINDOW LBNL	<i>Advanced</i>	IES-VE	<i>Advanced</i>
THERM LBNL	<i>Intermediate</i>	DesignBuilder	<i>Intermediate</i>
OpenStudio	<i>Intermediate</i>	Dialux EVO	<i>Intermediate</i>

### **Programming / Data Analysis**

Python	<i>Advanced</i>	Machine Learning	<i>Intermediate</i>
--------	-----------------	------------------	---------------------

### **2D/3D Modelling**

Parametric Modelling	<i>Advanced</i>	AutoCAD	<i>Advanced</i>
Revit Architecture	<i>Intermediate</i>	Dynamo	<i>Basic</i>
3Ds Max/VRAY	<i>Intermediate</i>	Rhinoceros	<i>Advanced</i>
SketchUp	<i>Intermediate</i>	Lumion	<i>Basic</i>

### **Graphical Presentation & Documentation**

Adobe Photoshop	<i>Advanced</i>	Freehand Sketching	<i>Advanced</i>
-----------------	-----------------	--------------------	-----------------

Microsoft Office Package    *Intermediate*

Adobe Illustrator

*Basic*

Adobe After Effect         *Intermediate*

## **References**

- Dr. Astrid Roetzel, Honorary Fellow  
Deakin University, Australia  
Email: [astrid.roetzel@deakin.edu.au](mailto:astrid.roetzel@deakin.edu.au)
- Dr. Hong Xian Li, Senior Lecturer  
Deakin University, Australia  
Email: [hong.li@deakin.edu.au](mailto:hong.li@deakin.edu.au)
- Prof. Aris Tsangrassoulis, Senior Lecturer, Professor  
University of Thessaly, Greece  
Email: [atsagras@arch.uth.gr](mailto:atsagras@arch.uth.gr)
- Dr. M. Reza Hosseini, Associate Head of Research  
Deakin University, Australia  
Email: [reza.hosseini@deakin.edu.au](mailto:reza.hosseini@deakin.edu.au)
- Dr. Saeed Banihashemi, Assistant Professor  
Canberra University, Australia  
Email: [Saeed.Banihashemi@canberra.edu.au](mailto:Saeed.Banihashemi@canberra.edu.au)
- Prof. Shady Attia, Professor  
University of Liege, Belgium  
Email: [shady.attia@uliege.be](mailto:shady.attia@uliege.be)
- Dr. Zahra S. Zomorodian, Assistant Professor  
Shahid Beheshti University, Iran  
Email: [z\\_zomorodian@sbu.ac.ir](mailto:z_zomorodian@sbu.ac.ir)
- Mr. Andrew Williams, Principal, Sustainability Section Manager  
STANTEC, Brisbane, Australia  
Email: [Andrew.williams@stantec.com](mailto:Andrew.williams@stantec.com)
- Mr. Riju Rajeev, National Specification Engineer  
SOMFY, Melbourne, Australia  
Email: [riju.rajeev@somfy.com](mailto:riju.rajeev@somfy.com)
- Mrs. Zamaneh Khoshdel, Principal Designer – Façade Team Lead  
AECOM, Melbourne, Australia  
Email: [zamaneh.khoshdel@inhabitgroup.com](mailto:zamaneh.khoshdel@inhabitgroup.com)