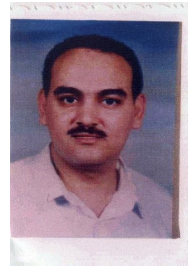


CURRICULUM VITE



Name

Mahmoud Farghaly Bady Mohammed
PhD in Air Pollution
Institute of Industrial Science (IIS)
University of Tokyo, Japan.

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Contact Details

Citizenship

Egyptian

Date of Birth

September 17, 1978

Language

Arabic: Native language.

English: First foreign language.

Japanese: Second foreign language.

Academic Degrees

□ PhD in AIR POLLUTION

Graduate School of Engineering, The University of Tokyo, Japan, 2008.

□ M. Sc. in Mechanical Engineering

Graduate School of Engineering, Assiut University, Egypt, 2002.

□ B.Sc. in Mechanical Engineering

Mechanical Engineering Department, Assiut University, 1996.

Present Position

Assistant Professor

Mechanical Engineering Department, Assiut University, Egypt.

Positions Hold

□ October 2008-till present, Assistant Professor, Mechanical Engineering Department, Faculty of Engineering, Assiut University.

□ April 2005-September 2008: PhD Student, Graduate School of Engineering, The University of Tokyo, Japan.

□ October 2004-March 2005: Research Assistant, Institute of Industrial Science, The University of Tokyo, Japan.

□ April 2002-September 2004: Assistant Lecturer, Mechanical Engineering Department, Faculty of Engineering, Assiut University.

□ October 1996-April 2002: Teaching Assistant, Mechanical Engineering Department, Faculty of Engineering, Assiut University, Egypt.

Awards

□ MARQUIS Who`s Who in the World, 2011.

□ MARQUIS Who`s Who in the World, 2010.

□ Research Fund of "Japan Society for the Promotion of Science (JSPS)" "Ki Ban A Ka Ken Hi", JSPS, 2008.

□ COE program fund "Continuous Regeneration of Urban Space Creation Science" of University of Tokyo to encourage young researchers, 2007.

□ Undergraduate "Distinction Award", Faculty of Engineering, Assiut University, Assiut, Egypt, years 1994 and 1995.

Professional Memberships

- ❑ Member of the ISO 14001 and OHSAS 18001 assessors group of Egypt
- ❑ Member of the Architecture Institute of Japan (AIJ).
- ❑ Member of the Japanese Society of Heating, Air Conditioning and Sanitary Engineers (SHASE).
- ❑ Member of the Education Evaluation Team at the Faculty of Engineering, Assiut University, Assiut, Egypt.
- ❑ Member of the Consultancy Office of the Faculty of Engineering, Assiut University, Assiut, Egypt.
- ❑ Member of Industrial Technology Transfer Unit (ITTU), Assiut University, Assiut, Egypt.
- ❑ Member of the Egyptian Engineering Syndicate.

Projects

- ❑ *Optimum Design of a High Density Populated Areas from the Air Quality Point of View* (with the Japanese government).
- ❑ *Reverses Simulation as a Tool to Identify Pollution Sources in Urban Areas* (with the Japanese government).
- ❑ *Solar-Driven Adsorption Cooling for Residential Air-Conditioning: System Evaluation and Comparison to Conventional Chillers* (A joint research project between Assiut University and Fraunhofer Institute for Environmental, Safety and Energy Technology (UMSICHT)-Germany)
- ❑ *Design, Construction and Testing of a Small-Scale Solar Chimney Power Plant.* (A project with Assiut University, Egypt).
- ❑ *Study of Air Pollutant Dispersion Emitted from Assiut Power Plant.* (A project with Assiut University, Egypt).

Research Interests

- ❑ Air Quality.
- ❑ Pollutant Dispersion Modeling
- ❑ Meteorology
- ❑ Air Pollution Modeling Using GIS
- ❑ Environment Impact Assessment
- ❑ Wind Environment around Buildings
- ❑ Wind Tunnel Modeling
- ❑ Reverse Simulation using CFD
- ❑ Solar Energy
- ❑ Urban Planning and Design

Research Work

- ❑ Doctoral Thesis:
“Study of Pollutants Dispersion and Wind Ventilation Effectiveness in Urban Areas through CFD Simulations and Wind Tunnel Experiments”.
- ❑ Master Thesis:
“Study of the Effect of Ethanol-Gasoline Blending Ratio on the Exhaust Emissions and the Performance of a Spark Ignition Engine”.
- ❑ Supervising MSc and PhD students.

Publications

Published Books:

- 1) Bady M., "*Air Quality*", Book Chapter, ISBN 978-953-307-131-2, Sciyo Academic Publisher (2010).
- 2) Bady M., "*Air Quality*", Book Chapter, ISBN 978-953-307-175-6, Sciyo Academic Publisher (In Press).

Articles Published in International Journals:

- 3) Bady M., Kato S., Ishida Y., Huang H, and Takahashi T., “*Application of*

- Exceedance Probability based on Wind Kinetic Energy to Evaluate the Pedestrian Level Wind in Dense Urban Areas*". Journal of Building and Environment (Accepted, In Press).
- 4) Bady M., Kato S., Takahashi T., and Huang H., "*Experimental Investigations of the Indoor Natural Ventilation for Different Building Configurations and Incidences*". Building and Environment, Vol. 46, No.1, January (2011).
 - 5) Bady M., Kato S., Ishida Y., and Huang H., "*Identification of Pollution Sources in Urban Areas Using Reverse Simulation and Reversed Time Marching Method*". Journal of Asian Architecture and Building Engineering (JAABE), Vol. 8, No.1, May (2009).
 - 6) Bady M., Kato S., Ishida Y., and Huang H., "*Towards the Application of Indoor Ventilation Efficiency Indices in Evaluating the Air Quality of Urban Areas*". Building and Environment, Volume 43, No.12, December (2008).
 - 7) Bady M., Kato S., Ishida Y., Huang H, and Takahashi T., "*Exceedance Probability as a Tool to Evaluate the Wind Environment within Densely Urban Areas*". Journal of Wind and Structure, Volume 11, No. 6, November (2008).
 - 8) Bady M., Kato S., Ishida Y., Huang H, and Takahashi T., "*Study on Wind Environment in Urban Blocks by CFD, Part II: Application of Exceedance Probability in Evaluating the Wind Environment within Densely Urban Areas in Japan*". Journal of Architecture Planning and Environmental Engineering (Transaction of AIJ), Volume 73, No. 634, (2008).
 - 9) Bady M., Kato S., Takahashi T., and Huang H., "*A Study on Ventilation in Densely Populated Urban Areas: An Experimental Investigation of Pedestrian Wind Environment and Air Quality within an Urban Street Canyon*". Submitted to Journal of Wind Engineering and Industrial Aerodynamics.
 - 10) Bady M., Kato S., Takahashi T., Huang H., and Ishida Y., "*A Study on Ventilation in Densely Populated Urban Areas, A Numerical Investigation of Wind Environment and Air Quality within an Urban Street Canyon*". Submitted to Journal of Wind Engineering and Industrial Aerodynamics.

Articles Published in International Conferences:

- 11) Bady M., Kato S., Ooka R., Huang H., and Jiang T., "*Comparative Study of Concentrations and Distributions of CO and NO in an Urban Area: Gaussian Plume Model and CFD Analysis*". Fourteenth International Conference on Modeling, Monitoring, and Management of Air Pollution, Southampton, England, May (2006).
- 12) Bady M., Kato S., Takahashi T., Huang H., and Ooka R., "*Study of the Effects of Ambient Wind Direction on Flow Characteristics and Purging Flow Rate Inside a Domain Located Within an Urban Street Canyon*". The Sixth International Conference on Urban Climate (ICUC6), Goteborg, Sweden, June (2006).
- 13) Bady M., Kato S., and Huang H., "*Analysis of Ventilation Efficiency Indices inside a Local Domain within an Urban Area Using Two*

- Building Model*". The Fourth International Conference on Computational Wind Engineering (CWE), Yokohama, Japan, July (2006).
- 14) Bady M., Kato S., Takahashi T., and Huang H., "*Study on Wind Environment in Urban Blocks by CFD: Wind Tunnel Experiments on Urban Ventilation in 3-D Densely Built-up Area*". The First Asian Symposium on Urban Environment and Energy, Tokyo, Japan, August (2006).
 - 15) Bady M., Kato S., Takahashi T., and Huang H. "*Wind Tunnel Tests of Wind Pressures on Cubic Buildings inside a Street of a High Density Built-up Area*". Twelfth International Conference on Computational Wind Engineering (12ICWE), Cairns, Australia, July (2007).
 - 16) Bady M., Kato S., Ishida Y., and Huang H., "*Assessment of Wind Environment inside an Urban Domain using Exceedance Probability based on Air Exchange Rate and Wind Kinetic Energy*". The Second Asian Symposium on Urban Environment and Energy, Beijing, China, November (2007).
 - 17) Bady M., Kato S., Huang H., "*Identification of Pollution Sources Locations in Outdoor Environments Using Reversed Time Marching Method*". The Third International Symposium on Wind Effects on Buildings and Urban Environment (ISWE3): New Frontiers in Wind Engineering, Tokyo, Japan, March (2008).
 - 18) Bady M., Kato S., Huang H., "*Inverse CFD Modeling as a Tool to Identify Pollution Source Locations in Outdoor Environments: Application of Reversed Time Marching Method*". Egypt-Japan International Conference on Science and Technology (EJICST2008), Tokyo, Japan, June (2008).
 - 19) Bady M., Kato S., Huang H., "*Application of Inverse CFD Modeling to Identify Pollution Source Locations in Urban Areas*". The Eighth UK Conference on Wind Engineering (WES08), Guildford, England, July (2008).

Articles Published in Local Conferences in Japan:

- 20) Bady M., Kato S., Takahashi T., Huang H. and Ooka R. "*Study of the Effect of Wind Direction on PFR inside an Urban Street Canyon through CFD Simulation and Wind Tunnel Experiments*". The Annual Meeting of the Japanese Architecture Association (AIJ), Yokohama, September (2006).
- 21) Bady M., Kato S., Takahashi T., Huang H. "*Study on Wind Environment in Urban Blocks by CFD Part (5): Wind Tunnel Experiments on Urban Ventilation in 3-D Densely Built-up Area*". The Annual Meeting of the Japanese Society of Heating, Air Conditioning and Sanitary Engineers (SHASE), Nagano, September (2006).
- 22) Bady M., Kato S., Takahashi T., Ishida Y., and Huang H., "*A Study of Urban Ventilation in High Density Built-up Area through Wind Tunnel Experiments and CFD Simulations*". Poster session of the Institute of Industrial Science Exhibition (Collaboration between Industries and Universities Forum), The University of Tokyo, January (2007).
- 23) Bady M., Kato S., Takahashi T., and Huang H., "*Wind Tunnel*

- Experiments of Wind Pressure Distribution on Buildings along a Street of a High Density Built-up Area*". The Annual Meeting of the Japanese Architecture Association (AIJ), Fukuoka, September (2007).
- 24) Bady M., Kato S., and Huang H., "*Application of Inverse CFD Modeling to Identify Pollution Source Locations in Urban Areas*" The Annual Meeting of the Japanese Architecture Association (AIJ), Hiroshima, September (2008).

Articles Published in Local Journals in Japan:

- 25) Bady M., Kato S., and Huang H., "*Analysis of Ventilation Efficiency Indices inside a Local Domain in an Urban Area Using Two Building Model, Part (I): Effect of Void Width and Building Height*". Journal of Institute of Industrial Science (The University of Tokyo), Volume 58(1), (2006).
- 26) Bady M., Kato S., and Huang H., "*Analysis of Ventilation Efficiency Indices inside a Local Domain in an Urban Area Using Two Building Model, Part (II): Effect of Wind Direction*". Journal of Institute of Industrial Science (The University of Tokyo), Volume 59(3), (2007).
- 27) Bady M., Kato S., Ishida Y., Huang H., and Takahashi T., "*Assessment of Wind Ventilation Performance inside a Street Located Within a Densely Urban Area Using Exceedance Probability Criterion*". Journal of Institute of Industrial Science (The University of Tokyo), Volume 60(1), (2008).

Conferences

- ❑ The Fourth International Conference of Environmental Science & Technology, National Research Center, Cairo, Egypt, December (2010).
- ❑ The Annual Meeting of the Japanese Architecture Association (AIJ), Hiroshima, Japan, September (2008).
- ❑ Egypt-Japan International Conference on Science and Technology (EJICST2008), Tokyo, Japan, June (2008).
- ❑ The Eighth UK Conference on Wind Engineering (WES08), Guildford, England, June (2008).
- ❑ The Third International Symposium on Wind Effects on Buildings and Urban Environment (ISWE3): New Frontiers in Wind Engineering, Tokyo, Japan, March (2008).
- ❑ The Annual Meeting of the Japanese Society of Heating, Air Conditioning and Sanitary Engineers (SHASE), Nagano, Japan, September (2006).
- ❑ The Twelfth International Conference on Wind Engineering (12ICWE), Cairns, Australia, July (2007).
- ❑ The Annual Meeting of the Japanese Architecture Association (AIJ), Fukuoka, Japan (2007).
- ❑ The Second Asian Symposium on Urban Environment and Energy, Beijing, China, November (2007).
- ❑ The First Asian Symposium on Urban Environment and Energy, Tokyo, Japan, August (2006).
- ❑ The Annual Meeting of the Japanese Architecture Association (AIJ), Yokohama, Japan, August (2006).
- ❑ The Fourteenth International Conference on Modeling, Monitoring, and Management of Air Pollution, Southampton, England, May (2006).
- ❑ The Fourth International Conference on Computational Wind Engineering (CWE), Yokohama, Japan, July (2006).
- ❑ The Sixth International Conference on Urban Climate (ICUC6), Gothenburg, Sweden, June (2006).
- ❑ The Third International Conference on Mechanical Engineering: Advanced Technology for Industrial Production, (MEATIP3), Assiut, Egypt, (2001).
- ❑ The Tenth International Conference for Mechanical Power Engineering, Assiut, Egypt, (1997).

Technical Experience

- ❑ I have a strong experience in carrying out numerical simulations using; CFD codes, FORTRAN programming and GIS.
- ❑ Programming using FORTRAN language (Fortran 90 and Fortran 77)
- ❑ I have a good experience in carrying out wind tunnel experiments for wind flow around buildings under different wind conditions. Wind velocity, wind pressure and tracer gas concentrations are the main quantities of my study.
- ❑ Since I was a member of the wind tunnel team of The University of Tokyo, I have a good experience in dealing with the following instrument:
 - Hot Wire Anemometer
 - Flame Ionization Detector (FID)
 - Thermistor
 - LDV
 - Wind Pressure Measuring System
 - Exhaust Gas Analyzer

Training Courses

- I gave a complete training course in “*Monitoring and Measurements of Air Pollution*” for 36 participants in a collaboration project between Egypt and the European Union, Assiut University, May 2009.
- I gave a complete training course in “*Monitoring and Measurements of Air Pollution*” for 25 participants in a collaboration project between Egypt and the European Union, Assiut University, May 2010.
- I gave a complete training course in “*Health and Industrial Safety*” for 30 participants in a collaboration project between Assiut University and Investors Association of Assiut, Assiut, June 2010.