CURRICULUM VITAE

Ahmed M Abdel-Ghany

Professor of Heat and Mass Transfer with 30 year of academic experience; teaching several undergraduate and post graduate courses; advisor and examiner for 16 Msc. and PhD students; visiting Prof. to Italy, Japan and other countries; Invited speaker and Scientific committee member to over than 15 Int. Conferences; active reviewer for 17 Int. ISI Journals; published more than 60 articles in ISI indexed Journals.

Mechanical Engineering Department, Faculty of Energy Engineering, Aswan University

PERSONAL DETAILS

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Citations:	h-index	i10-index
1340	22	30

Education and Degrees

1-Ph D (In Environmental Control Engineering), Graduate School of Science & Technology, Chiba University, Japan, Sept. 2001.
Thesis: *Energy and water vapor transfer in a greenhouse under hot and sunny climates.*

2-Ph D (In Mechanical Engineering, Heat transfer), Mech. Eng. Dept., Faculty of Engineering, University of Assiut, Egypt, 2002.
Thesis: *Heat transfer in greenhouses with selective radiation filtering roofs*.

3-M.Sc. (In Mechanical Engineering), Mech. Eng. Dept., University of Assiut, Egypt, 1992.
Thesis: *Investigation of heat transfer between a surface and a gas fluidized-bed at high temperature*.

4-B.Sc. (In Mechanical Engineering), Mech. Eng. Dept., Faculty of Engineering, University of Assiut, Egypt, 1984.

Research Interests

Thermal and environmental control engineering; measuring and modeling analysis of heat and mass transfer in the following fields:

(i) Agricultural structures (plastic net-houses, plastic films & glass–covered greenhouses).
(ii) Heat and mass transfer in the industrial processes.
(iii) Solar energy applications for heating and cooling systems and solar desalination systems.
(iv) Bioreactors for composting systems.
(v) Fluidized bed combustion systems.

Research Activities

1- M.Sc. Advisor

(i) Measuring the correct air dry bulb temperature under a foggy environment, 2007 (completed).

(ii) Diffuse radiation transfer through plant tissue culture vessels, 2008 (completed).

(iii) Heating load in the pneumatic conveyors of the wheat flower, 2009 (completed).

(iv) Modeling and experimental studies of solar drying for agriculture products in greenhouse covered with new plastic materials, 2010 (completed).

(v) Effect of impeller diameter on the flow characteristics of a centrifugal pump, 2012 (completed).

1) Investigating deterioration of the radiative properties of plastic covers for un-cooled greenhouses under dry and humid climatic conditions, 2015 (completed).

2) Effect of shading location on the spatial distribution of the greenhouse microclimatic parameters under arid condition, 2016 (completed).

3) Effects of reflective and diffusive plastic film covers on the greenhouse environment, 2017 (on-going)

4) Effects of plastic net colors on the environment, light quality and plant growth under different shading blocks having color in arid greenhouse, 2018 (on-going).

2- M.Sc. and PhD Examiner:

- The above mentioned M.Sc., Aswan University, South Valley University, and King Saud University
- M.Sc. , Electrical Eng. Dept., South Valley University
- M.Sc., Mech. Eng. Dept., Faculty of Industrial Education, Sohag University
- PhD., Egypt-Japan University of Sciences & Technology (E-JUST).

3- Acting Reviewer to ISI-Indexed Int. Journals

1. Int. J. of Heat and Mass Transfer,
2. Solar Energy,
3. Biosystems Engineering,
4. Energy and Buildings,
5. Computer and Electronic in Agriculture
6. Int. J. of Physical Sciences,
7. Computer and Mathematics with Applications (CAMWA),
8. African Journal of Biotechnology,
9. African Journal of Agriculture Sciences,
10. Transactions of the ASABE, (Applied Energy in Agriculture),
11. Int. J. of Engineering Science and Technology,
12. Int. J. of Biodiversity and Conservation, and
13. Herald Journal of Engineering and Computer Sciences (HJECS).
14. Int. J. of Sustainable Energy,
15. Applied Energy,
16. Desalination.

4- Invited & Keynote Speaker to International Conferences

1) The10th International conference on mechanical engineering (IMPEC10), 16-18 Dec., 1997, Mech. Eng. Dept., Assiut University, Egypt.
2) International symposium on transplant production in close system for solving the global issues on environmental conservation, food, resources and energy, 28 Feb. - 2 March, 2000, Chiba University, Japan.
3) Agricultural and biochemical development strategies (AGRI-BIOCHE 2000) in the 21st century. 5-8 March, 2001, Chiba University, Japan.
4) The XIV memorial CIGR world congress. Nov. 28-Dec., 1, 2000. Tsukuba University, Japan
5) The12th International conference on mechanical engineering (IMPEC12), Oct 30 - Nov. 1, 2001, Faculty of Engineering, Mansoura University, Egypt.

6) International conference on research highlights and vanguard technology on environmental engineering in agricultural systems. Sept. 12-15, 2005, Kanazawa University, Japan.
7) The First Int. Energy Engineering Conference IEEC-I, South Valley University, Dec. 27-31, 2008, Aswan, Egypt.
8) The Energy & Materials Research Conference, 20-22 June, 2012, Torremolinos, Malaga, Spain.
9) ICES 2014, 3rd ScienceOne Int Conference on Environmental Sciences, 21-23 Jan, 2014, Dubai, UAE.
10) Seventh Int. Conference on Thermal Engineering: Theory and Applications, 6-8 May, 2014, Marrakesh, Morocco.
11) Global Conference on Energy and Sustainable Development, GCESD2015, 24-26 Feb., 2015, Coventry, UK.

5- Membership Scientific Committee Int. Conferences

- ISHS-International Conference on Greenhouse Environmental Control and Crop Production in Semi-Arid Regions. October 20-24, 2008, Omni Tucson National Golf Resort and Spa, Tucson, AZ, USA, http://www.eventinterface.com/clients/ishs/committee.cfm
- Global Conference on Energy and Sustainable Development, CESD2015, 24-26 Feb, 2015, Coventry, UK (**Chairman**).
- The 1st Int. Conference on Mechanical, Energy and Materials Engineering, Dec 8-9, (2015), Biskra University, Algeria
- The 3rd International Symposium on Innovation and New Technologies in Protected Cultivation (http://www.ihc2018.org/en/S17.html) under International Horticultural Congress, 2018 (IHC 2018, http://www.ihc2018.org/en/), Istanbul, Turkey.
- Greensys 2019 - International Symposium on Advanced Technologies and Management for Innovative Greenhouses. 16-20 June, Angers, France.

Research Projects and Grants

- Developing a plastic net house as an alternative agricultural structure for saving energy and water in the Kingdom of Saudi Arabia. Funded by: the National Plan for Sciences and Technology (NPST), King Saud University, Project No. ENE912-02-09, (completed). Duration: 24 month, (PI: I. M. Al-Helal, Co-PI: A. M. Abdel-Ghany).
- Development and evaluation of polyethylene film for covering greenhouses in arid regions. Funded by: the National Plan for Sciences and Technology (NPST), King Saud University, Project No.ADV914-02-09, (completed). Duration: 24 month, (PI: I. M. Al-Helal, Co-PI: A. M. Abdel-Ghany).
- A study of the radiative properties of plastic shading nets used for agricultural applications in the Kingdom of Saudi Arabia. Funded by: Agricultural Research Centre, College of Food and Agricultural Sciences, King Saud University, Project No:--- (completed). Duration: 6 month, (PI: I. M. Al-Helal, Co-PI: A. M. Abdel-Ghany).

- A study on the distribution of solar radiation, sensible and latent heat and evapo-transpiration in a greenhouse under arid climatic conditions in the Kingdom of Saudi Arabia. Funded by: Agricultural Research Centre, College of Food and Agricultural Sciences, King Saud University, Project No: ---(completed). Duration: 12 month, (PI: I. M. Al-Helal, Co-PI: A. M. Abdel-Ghany).
- Evaluation of heat stress in solar greenhouses under arid climate. Funded by: Sustainable Energy Technology Center (SET), Project No. SP12/A1/007, (completed). Duration: 6 month, (PI: A. M. Abdel-Ghany, Co-PI: I. M. Al-Helal).
- Research Group No: 1435-074, funded by: Deanship of Scientific Research, King Saud University, 2014-2018.

Membership Scientific/Technical Associations

- Asian Council of Science Editors, membership no: 966.8708.
- Japan Society for Promotion of Sciences (JSPS, 2004-2006).
- Egyptian Engineers Syndicate.
- Egyptian Mechanical Engineering Association.
- Scientific Committee for the Promotion of Faculty Members, 2016-2019, Code: 11170, Supreme Council of Universities.

Fellowships, Prizes and Awards

- Egyptian Government Scholarship to Chiba University, Japan: 1999-2001.
- JSPS Postdoctoral Fellow at Laboratory of Environmental Control Engineering, Chiba University, Japan, (from June 2004- June 2006).
- Nominated for the ENI-2011 International, Italy, 2011. Merits of the candidacy: The research article: Solar Energy utilization by a greenhouse: General relations
- King Saud University award for the best researcher, college based 2013.
- College Shield for research excellence, King Saud University, 2013
- Awards for excellence in research and publication quality (6 times), Deanship of Scientific Research, King Saud University, 2010-2016.
- Visiting Professor to Edamus Master Partners in Europe (University of Basilicata & University of Bari, Italy) from Dec 1 to Dec 15, 2017 as a senior scholar under the Erasmus Mundus scholarship programme.

Technical Experience in Industrial Companies

- Jan. 1985 – Feb. 1986: Engineer, Nile of Aluminum and Plastic Co. Ltd., (NAPCO), Egypt: Design and constructing of aluminum structures for buildings.
- Mar. 1986- Dec. 1992: Engineer, Sugar and Integrated Industries Co. SIIC, Egypt: Consultant for operation and maintenance of diesel engines, hydraulic systems, power plants (boilers, steam turbines, pumps and pipelines, etc.) and the operation systems of sugar production lines.
- Jan. 1993 – Jan. 1995: Engineer, Almosali Factory for Jewelry, Jeddah, Saudi Arabia: Maintenance and operation of jewelry production machines, furnaces, casting polishing, etc.
- Oct. 1994–Nov. 1994: Training in SISMA Co. Ltd., Badowa, Italy.

Academic Career

- Feb. 1995 – Sept. 1999:
  Lecturer, Mech. Eng. Dept. High Institute of Energy, South Valley University, Aswan, Egypt.
- Oct. 1999- Oct. 2001:
  Ph D research student at Laboratory of Environmental Control Engineering, Graduate School of Science and Technology, Chiba University, Japan.
- Nov. 2001 – May 2004:
  Assistant Professor, Mechanical Engineering Dept. High Institute of Energy, South Valley University, Aswan, Egypt.
- June 2004 – June 2006:
  Japan Society for promotion of science (JSPS), Postdoctoral research fellow at Graduate school of Science and Technology, Chiba University, Japan.
- July 2006 – Sept. 2008:
  Associate Prof., Mech. Power Eng. Dept., Faculty of Engineering, South Valley University, Qena, Egypt
- Oct. 2008-Nov. 2012:
  Associate Prof., Agric. Eng. Dept., Faculty of Foods & Agric. Sciences, King Saud University, Saudi Arabia.
- Nov. 2012- Sep. 2021:
  Prof. of heat transfer, Agric. Eng. Dept., Faculty of Foods & Agric. Sciences, King Saud University, Saudi Arabia.

Teaching Duties

Graduate and undergraduate courses:

(i) Thermodynamics,
(ii) Heat and mass transfer,
(iii) Power plants engineering,
(iv) Heat engines,
(v) Fundamental fluid mechanics,
(vi) Internal combustion engines,
(vii) Thermal engineering laboratories and
(viii) Renewable and sustainable energy applications

Graduation projects:

(i) Design of 1 MW electric solar thermal power plant,
(ii) Design of solar thermal system for heating 120 m^3 basin pools in Aswan city,
(iii) Design configuration of solar cooker for countryside regions,
(iv) Effects of green trees shading in reducing heat stresses and improving human thermal comfort in Aswan City: Case study, and
(v) Effect of shading configuration on the environment and soil temperature under small plastic tunnels

List of Publication

I-Research Articles in ISI-Web of Knowledge Indexed Journals

I'm (Abdel-Ghany A M) is the corresponding author of all the articles except: 25, 33, 36, 37, 38, 40, 41, and 42.

[1] Hamdy M S, **Abdel-Ghany A M** and Nassib A M, (1993). An analysis of the combined conductive-radiative heat transfer between a surface and a gas-fluidized bed at high temperature. **Int. J. of Heat and Mass Transfer**, 36(9):281-292. **(IF= 3.891)**

[2] **Abdel-Ghany A M**, Kozai, T, Abdel-Shafi N Y, Taha, I M S and Huzayyin A S, (2001). Dynamic simulation modeling for heat and water vapor transfer in the fluid-roof greenhouse. **J. of Agric. Meteorology**, 57 (4):169-182. **(IF=1.037)**

[3] **Abdel-Ghany A M,** Kozai T, Kubota C and Taha I S, (2001). Investigation of the spectral optical properties of the liquid radiation filters for using in the greenhouse application. **J. of Agric. Meteorology**, 57(1):11-19. **(IF=1.037)**

[4] **Abdel-Ghany A M**, Kozai T and Chun C, (2001). Evaluation of selected greenhouse covers for use in regions with a hot climate. **Japan. J. Trop. Agric.,** 45(4): 242-250.

[5] **Abdel-Ghany A M,** Kozai T and Chun C, (2001). Plastic films vs. fluid-roof cover for a greenhouse in a hot climate: A comparative study by simulation. **Japan J. of High Technology in Agriculture (SHITA),** 13(4): 237-246.

[6] **Abdel-Ghany A M** and Kozai T, (2006). Radiation exchange factors between specular inner surfaces of rectangular enclosure such as transplant production unit. **Energy Conversion & Management,** 47(13): 1988-1998. **(IF=6.377)**

[7] **Abdel-Ghany A M** and Kozai T, (2006). On the determination of the overall heat transmission coefficient and soil heat flux for a fog-cooled, naturally ventilated greenhouse: Analysis of radiation and convection heat transfer. **Energy Conversion & Management,** 47:2612-2628. **(IF=6.377)**

[8] **Abdel-Ghany A M** and Kozai T, (2006). Dynamic modeling of the environment in a naturally ventilated, fog-cooled greenhouse. **Renewable Energy,** 31: 1521-1539. **(IF=3.2)**

[9] **Abdel-Ghany A M**, Ishigami Y, Goto E, Kozai T. (2006) A method for measuring greenhouse cover temperature using a thermocouple. **Biosystems Engineering,** 95(1): 99-109. **(IF=2.132)**

[10] **Abdel-Ghany A M** and Kozai T, (2006). Cooling efficiency of fogging systems for greenhouses. **Biosystems Engineering,** 94(1): 95-107. **(IF=2.132)**

[11] **Abdel-Ghany A M**, Goto E and Kozai T, (2006). Evaporation characteristics in a naturally ventilated, fog-cooled greenhouse. **Renewable Energy,** 31: 2207-2226. **(IF=3.2)**

[12] **Abdel-Ghany A M**, Kozai T (2007). Concept of the un-cooled air in a greenhouse cooled by fogging in summer: An idea to estimate the cooling efficiency of a fogging system. **Environ. Control in Biology,** 45(1): 9-18.

[13] **Abdel-Ghany A M**, Al-Helal I M (2010). Characterization of solar radiation transmission through plastic shading nets. **Sol. Energy Mater. Sol. Cells** (SOLMAT), 94:1371-1378. **(IF= 5.018)**

[14] Al-Helal I M; **Abdel-Ghany A M**, (2010). Responses of plastic shading nets to global and diffuse PAR transfer: Optical properties and evaluation. **NJAS- Wageningen Journal of Life Sciences** 57:125-132. **(IF=1.585)**

[15] **Abdel-Ghany A M** (2011). Solar energy conversions in the greenhouses. **Sustainable Cities and Society** 1:219-226. **(IF=3.073)**

[16] **Abdel-Ghany A M** (2011). Energy balance equation for natural ventilation of greenhouses under unsteady-state conditions. **Middle East Journal of Scientific Research** 10(3): 286- 293.

[17] **Abdel-Ghany A M**, Al-Helal I M, (2011). Solar energy utilization by a greenhouse: General relations. **Renewable Energy** 36:189-196. **(IF=4.9)**

[18] Al-Helal I M; **Abdel-Ghany A M**, (2011). Measuring and evaluating solar radiative properties of plastic shading nets. **Sol. Energy Mater. Sol. Cells** (SOLMAT), 95:677-683. **(IF=5.018)**

[19] **Abdel-Ghany A M**, Al-Helal I M, (2011). Analysis of solar radiation transfer: A method to estimate the porosity of a plastic shading net**. Energy Conversion & Manage**. 52:1755-1762. **(IF=6.377)**

[20] Al-Helal I M, **Abdel-Ghany A M** (2011). Energy Partition and conversion of solar and thermal radiation into sensible and latent heat in a greenhouse under arid conditions. **Energy & Buildings** 43: 1740-1747. **(IF=4.457)**

[21] **Abdel-Ghany A M**, Al-Helal I M (2012). A method for determining the long-wave radiative properties of a plastic shading net under natural conditions. **Sol. Energy Mater. Sol. Cells** (SOLMAT), 99:268-276. **(IF=5.018)**

[22] **Abdel-Ghany A M**, Al-Helal I M, El-zahrani S M, Alsadon A A, Ali I M, Elleithy R M (2012). Covering materials incorporating radiation-preventing techniques to meet greenhouse cooling challenge in arid regions: A review. **The Scientific World Journal TSWJ,** volume 2012, doi:10:1100/2012/906360. **(IF=1.72)**

[23] **Abdel-Ghany A M**, Al-Helal I M (2012). Modeling approach for determining equivalent optical constants of plastic shading nets under solar radiation conditions. **Advances in Materials Science and Engineering**, Vol. 2012, ID: 158067, doi: 10.1155/ 2012/158067. **(IF=1.372)**

[24] **Abdel-Ghany A M**, Al-Helal I M, Shady M R (2013). Human thermal comfort and heat stress in an outdoor urban arid environment: A case study. **Advances in Meteorology**, Vol. 2013, ID 693541, 7 pages, doi: org/10.1155/2013/693541. **(IF=1.645)**

[25] Syed K H G, **Abdel-Ghany A M**, Al-Helal I M, El-zahrani S M, Alsadon A A (2013). Evaluation of PE film having NIR-reflective additives for greenhouse applications. **Advances in Materials Science and Engineering**, vol. 2013, ID 575081, 8 pages, doi:org/10.1155/2013/575081. **(IF=1.372)**

[26] **Abdel-Ghany A M**, Al-Helal I M, Shady M R (2013). Effect of the evaporative cooling on the human thermal comfort and heat stress in a greenhouse under arid conditions. **Advances in Meteorology**, Vol. 2013, ID 361471, 9 pages, dio: org/10.1155/2013/361471. **(IF=1.645)**

[27] **Abdel-Ghany A M**, Al-Helal I M, Shady M R (2014). Evaluation of human thermal comfort and heat stress in an outdoor urban setting in summer under arid climatic conditions. **Environment Protection Engineering**, 40(3): 139-150. **(IF=0.75)**

[28] **Abdel-Ghany A M**, Al-Helal I M (2014). Methods for determining the temperature of a plastic net under solar and thermal radiation conditions, **Sol. Energy Mater. Sol. Cells** (SOLMAT), 125:1-7. **(IF=5.018)**

[29] **Abdel-Ghany A M**, Al-Helal I M, Shady M R (2015). On the emissivity and absorptivity of plastic shading nets under natural conditions. **Advances in Mechanical Engineering**, vol. 7(1), doi: 10.1155/2014/165605. **(IF=0.848)**

[30] **Abdel-Ghany A M**, Al-Helal I M, Shady M R (2016). Estimating the thermal radiative properties of shading nets under natural outdoor conditions. **ASME Journal of Heat Transfer, doi: 10.1115/1.4032953. (IF=1.602)**

[31] **Abdel-Ghany A M**, Al-Helal I M, Shady M R, Ibrahim A A (2015). Convective heat transfer coefficients between horizontal plastic shading nets and air. **Energy & Buildings,** 93:119-125. **(IF=4.457)**

[32] Al-Helal I M, Waheeb S A, Shady M R, **Abdel-Ghany A M** (2015). Modefied thermal model to predict the natural ventilation of greenhouses. **Energy & Buildings,** 99: 8. **(IF=4.457)**

[33] Tiwari G N, Yadav J K, Singh D B, Al-Helal I M, **Abdel-Ghany A M** (2015). Exergoeconomic and enviroeconomic analyses of partially covered photovoltaic flat plate collector active solar desalination system. **Desalination**, 367: 186-196. **(IF=6.603)**

[34] **Abdel-Ghany A M**, Picuno P, Al-Helal I M, Shady M R (2016). Modified plastic net-houses as alternative agricultural structures for saving energy and water in hot and sunny regions. **Renewable Energy**, 93: 332-339. **(IF=4.9)**

[35] **Abdel-Ghany A M,** Picuno P, Al-Helal I M, Alsadon A A, Ibrahim A , Shady MR (2015). Radiometric characterization, solar and thermal radiation in a greenhouse as affected by shading configuration in an arid climate. **Energies**, 8: 13928-13937; doi:10.3390/en81212404. **(IF=2.767)**

[36] Alsadon A A, Al-Helal I M, Ibrahim A, **Abdel-Ghany A M**, Al-Zaharani S, Ashour T (2016). The effects of plastic greenhouse covering on cucumber (Cucumis sativus L.) growth. **Ecological Engineering**, 87:305-312. **(IF=3.023)**

[37] Alsadon A A, Al-Helal I M, Ibrahim A, **Abdel-Ghany A M**, Al-Zaharani S, Gulrez S K H (2016). Growth response of cucumber under greenhouses covered with plastic films. **The Journal of Animal & Plant Sciences**, 26(1): 139-148. **(IF=0.581)**

[38] Ahemd H A, Al-Faraj A A**, Abdel-Ghany A M** (2016). Shading greenhouses to improve the microclimate, energy and water saving in hot regions: A review. **Scientia Horticulturae**, 201: 36-45. **(IF=1.76)**

[39] **Abdel-Ghany A M**, Al-Helal I M, Alsadon A, Ibrahim A, Shady M R (2016). Closed solar house with radiation filtering roof for transplant production in arid regions: Energy consumption. **Energies**, 9, 136; doi: 10.3390/en9030136. **(IF=2.767)**

[40] Ahmed H A, Al-Faraj **A A, Abdel-Ghany A M** (2016). Effect of cooling strategies on the uniformity of the greenhouses microclimate: A review. **Ciencia e Technica Vitivinicola**, 31(4): 249-288.

[41] Picuno P, **Abdel-Ghany A M** (2016). Spectro-radiometrical analysis of plastic nets for greenhouse shading under arid conditions. 44th International Symposium "Actual Tasks in gricultural Engineering" 23th – 26th of February 2016, Opatija, Croatia. Book Series: Actual Tasks on Agricultural Engineering-Zagreb Volume: 44 Pages: 469-477.

[42] Kumar A, Prakash O, Tekasakul P, **Abdel-Ghany A M**, Al-Helal IM (2017). Environomical analysis and mathematical modelling of potato chips drying in Modified solar greenhouse dryer. **Heat Transfer Research**, doi: 10.1615/HeatTransRes.2017012421. **(IF=0.804)**

[43] Alkoaik F N, **Abdel-Ghany A M** , Rashwan M A , Ronnel B F, Mansour N I (2018). Energy analysis of a rotary drum bioreactor for composting tomato plant residues. **Energies**, 10, 449; doi:10.3390/en11020449. (**IF=2.767**)

[44] **Abdel-Ghany A M**, Al-Helal I M, Kumar A, Alsadon A A, Shady M R, Ibrahim A A (2018). Effect of ageing on the spectral radiative properties of plastic film-covered greenhouse under arid conditions. **International Journal of Thermophysics**, 39:115, https://doi.org/10.1007/s10765-018-2434-8 (**IF=0.829**)

[45] Alkoaik F N, **Abdel-Ghany A M** , Al-Helal IM, Rashwan M A , Ronnel B F, Mansour N I (2019). Effect of Insulation on the performance of a rotary drum bioreactor for composting agricultural residues. Energies, 12, 135, doi: 10.3390/en12020315. **(IF=2.767)**

[46] Alkoaik F N, Al-Faraj A A , Al-Helal IM, Ronnel B F, Mansour N I, **Abdel-Ghany A M**. (2019). Toward sustainability in rural areas: Composting palm tree residues in rotation bioreactors. Sustainability, 12, 201; doi:10.3390/su12010201

[47] **Abdel-Ghany A M**, Al-Helal I M, Picuno P, Cidek M F, Al-Rebeh A A, Shady MR (2019). Degradation characteristics of the optical constants of PE-LD film-covered greenhouses in an arid climate. *International Journal of Thermophysics*, 40:62 https://doi.org/10.1007/s10765-019-2528-y

[48] Hesham A A, TONG Yu-xin, YANG Qi-chang, Abdulellah A. A, **Abdel-Ghany A M** (2019). Spatial distribution of air temperature and relative humidity in the greenhouse as affected by external shading in arid climates. Journal of Integrative Agriculture, 18(12): 2869–2882

[49] **Abdel-Ghany A M**, Al-Helal I M (2019). Characterizing the convective heat exchange with plastic shading nets under natural arid conditions. Int. J. of Energy Tech. 1, 11-20.

[50] **Abdel-Ghany A M**, Al-Helal I M, Alsadon A A, Ibrahim A, Shady M R. (2020). Predicting the cooling potential of different shading methods for greenhouses in arid regions. Energies, 12(24), 4716; https://doi.org/10.3390/en12244716

[51] Mohamed A R, Alkoaik F N, Hesham S A, Mansour N I, Ronnel B F, Shady M R, **Abdel-Ghany A M**. (2020). Evaluation of tomato waste compost stability and maturity using CIELAB Color indicator. *J of Plant Nutrition*, https://doi.org/10.1080/01904167.2020.1739301

[52] Al-Helal I M, Alsadon A, Ibrahim A, Shady M, **Abdel-Ghany A M** (2020). Diffusion Characteristics of solar beams radiation transmitting through greenhouse covers in arid climates. Energies 13, 472; doi:10.3390/en13020472.

[53] Ahmed H A, Yu-xin T, Qi-chang Y, Alhelal I M, Shady M R, **Abdel-Ghany A M** (2020). Estimation of sky thermal irradiance in arid climate under clear sky conditions. *International Journal of Thermophysics*, 41:76, https://doi.org/10.1007/s10765-020-02656-1.

[54] Al-Helal I M, Alsadon A, Ibrahim A, Shady M R, **Abdel-Ghany A M** (2022). Geothermal energy potential for Heating/cooling greenhouses in hot arid regions. *Atmosphere*, 13, 105, https://doi.org/10.3390/atmos13010105.

[55] **Abdel-Ghany A M**, Al-Helal I M, Alsadom A, Ibrahim A, Shady M R (2022). Measuring and predicting the in-ground temperature profile for geothermal energy systems in

the desert of arid regions. *Energies*, 15, 7268. https://doi.org/10.3390/en15197268.

[56] Al-Helal, I.; Picuno, P.; Alsadon, A.A.; Ibrahim, A.; Shady, M.; Abdel-Ghany, A.M. (2022). Effect of Shape, Orientation and Aging of a Plastic Greenhouse Cover on the Degradation Rate of the Optical Properties in Arid Climates. Appl. Sci. 12, 2709. https://doi.org/ 10.3390/app12052709

II- Research Articles in Peer-reviewed Scopus & Google Scholar indexed Journals

[1] **Abdel-Ghany A M**, Abdel-Shafi N Y, Taha I M S and Huzayyin A S, (1999). Solar radiation transmission characteristics through a doubl-walled greenhouse cover. **Bull. Fac. Eng., Assiut Univ., Egypt,** 27(1):111-128.

[2] **Abdel-Ghany A M**, Abdel-Shafi N Y, Taha I M S and Huzayyin A S, (2000).Solar radiation transmission through a hollow-channeled fluid-roof greenhouse cover. **Bull. Fac. Eng., Assiut Univ., Egypt,** 28 (2): 55-72.

[3] **Abdel-Ghany A M**, Taha I M S and Abdel-Shafi N Y, (2001). Fluid-roof solar house for transplant production in hot and sunny desert: Energy consumption. **Bull. Fac. Eng., Assiut Univ., Egypt,** 29(3): 139-149.

[4] **Abdel-Ghany A M** (2007). Energy balance model for natural ventilation of greenhouses. **Journal of Engineering Science JES,** Assiut University, Egypt, 35(1): 71-92.

[5] Reda A M, **Abdel-Ghany A M**, Taha I M S, Abdel-Hady S M (2012). A mathematical model for predicting the light irradiance inside the plant tissue culture vessels. **Journal of Engineering Sciences JES,** Assiut University, Egypt, 40(2): 393-417.

[6] Shamroukh A N, Taha I S, **Abdel-Ghany A M**, Attala M (2012). Design and evaluation of different devices for measuring air dry-bulb temperature in a foggy environment. **Journal of Engineering Sciences JES**, Assiut University, Egypt, 40(2): 419-432.

III- Research Articles in Int. Conferences

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