



Prof. Ibrahim I. El-Sharkawy

*Chairman of Sustainable and Renewable Energy Engineering Department
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Academic Qualifications

Ph.D., Kyushu University, Japan, 2006

Department of Energy and Environmental Engineering, Interdisciplinary Graduate
School of Engineering Sciences

M.Sc., Mansoura University, Egypt, 2000

Mechanical Power Engineering Department, Faculty of Engineering

B.Sc., Mansoura University, Egypt, 1995

Mechanical Power Engineering Department, Faculty of Engineering

Employment History

Position	Starting Date	Ending Date	Employer
Professor	July. 2019	To date	Energy Resources Engineering Department, Egypt-Japan University of Science and Technology (E-JUST)
Professor (on-leave)	Nov. 2016	To date	Mechanical Power Engineering Dept., Faculty of Engineering, Mansoura University, Egypt
Promoted as a Professor due to the Excellence in Scientific Research "The First Case in Mechanical Engineering in Egyptian Universities"			
Associate Professor	Nov. 2011	Nov. 2016	Mechanical Power Engineering Department, Faculty of Engineering, Mansoura University, Egypt
Assistant Professor	Oct. 2006	Nov. 2011	
Assistant Lecturer	Apr. 2000	Oct. 2006	
Demonstrator	Dec. 1995	Apr. 2000	

Administrative Positions:

- **Dean** of Future Higher Institute of Engineering and Technology in Mansoura: Feb. 2017 – June 2019.
- **Director** of support center for small and medium-sized enterprises at Mansoura University: Oct. 2016 – Oct. 2017.

International Fellowships and Scientific Visits

Fellowship	Starting Date	Ending Date	Hosting Institute
Research Fellow	June 2013	March 2016	Japan Science and Technology Agency (JST), Core Research Evolution Science and Technology (CREST), Kyushu University, Japan
Visiting Associate Professor	March 2012		Solar Energy Research Institute (SERI), The National University of Malaysia (UKM), Malaysia
Postdoctoral Research Fellow	Sept. 2009	Feb. 2010	King Abdullah University of Science and Technology (KAUST) hosted by National University of Singapore
Visiting Researcher	February 2009		University of Warwick, UK, as a member of Thermal Energy Conversion, Conservation and Storage (TECCS) network between UK, China and Japan
Postdoctoral Research Fellow	Sept. 2007	Aug. 2009	Japan Society for the Promotion of Science (JSPS)
Postdoctoral Research Fellow	Dec. 2006	May 2007	Mechanical Engineering Dept., National University of Singapore

Academic Honors and Awards

- Listed among the top 2% of the world's most cited scientists, 2019, according to Stanford University, USA.
- **Award of Excellence from the First Class of his Excellency the President of the Arab Republic of Egypt, 2017.**
- State Encouragement Award in Engineering Sciences, 2016
- Mansoura University Encouragement Award, 2016
- Outstanding Contribution in Reviewing

- Applied Thermal Engineering, Elsevier, July 2015.
- **Silver Medal**
- 23rd International Invention, Innovation & Technology Exhibition (ITEX 2012), Kuala Lumpur, Malaysia, 2012
- **The Best Presentation Award**
- The 3rd Asian Conference on Refrigeration and Air-conditioning (ACRA), Gyeongju, South Korea, 2006
- **The Best Presentation Award**
- Japanese Society of Refrigeration and Air Conditioning Engineers (JSRAE), Tokyo, Japan, 2005
- **Outstanding Paper Award**
- The 6th Cross Straits Symposium on Materials, Energy and Environmental Engineering, Pohang University, South Korea, 2004

Participation in Research Projects

1. Co-PI of the project entitled “Project for Capacity development on Energy Efficiency and Conservation in Arab Republic of Egypt” Funded by Japan International Cooperation Agency (JICA).
2. Co-PI of the project entitled “Low-grade heat recovery for absorption chiller and desalination from concentrated solar powered steam power plants in Egypt” funded by Egypt-UK Newton-Musharafa Fund: Institutional Links
3. Member of the project entitled “Geothermal Energy Capacity Building in Egypt-Joint Project”, Erasmus-European Union.
4. Consultant of the project entitled “Solar Driven Water Treatment System using MOF Adsorption integrated with Nanomaterial Pre-Treatment and Real Time Water Quality Sensor for Egypt”, funded by Egypt-UK Newton-Musharafa Fund: Institutional Links

Research Interests

1. Solar cooling systems
2. Solar-powered multigeneration systems
3. Refrigeration and air-conditioning
4. Solar energy-driven seawater desalination
5. Atmospheric water harvesting
6. Thermal energy storage using adsorption technology
7. Solar systems for energy-efficient housing
8. Thermally-driven hybrid adsorption-vapor compression refrigeration systems

Selected Supervision and Arbitration Thesis:

NO	Title	Remarks	
1.	Performance investigation of integrated adsorption-based multigeneration energy systems powered by solar energy.	Supervision	On-going
2.	Performance investigation of solar-powered hybrid adsorption-vapor compression cooling systems	Supervision	On-going
3.	Theoretical and experimental investigation of a compound parabolic solar concentrator to enhance performance of a photovoltaic system	Supervision	On-going
4.	A novel solar driven mechanical vapor compression desalination system with nano filtration pretreatment	Supervision	On-going
5.	Design and performance of a multi-stage sorption energy storage system	Supervision	On-going
6.	Feasibility study of poly-generation system for energy, cooling and potable water	Supervision	Completed
7.	Experimental and theoretical investigation of decentralized desalination system	Supervision	Completed
8.	Thermal energy storage using adsorption system	Supervision	Completed
9.	Natural gas storage using adsorption technology	Supervision	Completed
10.	Dynamic characteristics of adsorbed natural gas storage during charging and discharging processes	Supervision	Completed
11.	Enhancing the productivity of solar still	Arbitration	
12.	Solar-powered portable apparatus for extracting water from air using desiccant solution	Arbitration	
13.	Extraction of water from Air using double slope condensation surface	Arbitration	
14.	Experimental and theoretical study on the performance improvement of an adsorption cooling system	Arbitration	
15.	Experimental and theoretical study of a hybrid adsorption cooling desalination system powered by solar energy	Arbitration	

Calling to Review Articles

Review scientific articles for the following journals:

1. Applied Thermal Engineering
2. International Journal of Refrigeration
3. Energy
4. Applied Energy
5. Energy Conversion and Management
6. Heat Transfer Engineering
7. Building Simulation: An International Journal

Teaching and Supervision Experience

I have taught a wide range of courses that mainly covers the topics of thermal engineering and solar energy, including fundamentals and applications. In addition to the classroom teaching and instruction:

- **I have supervised graduation projects** on solar driven adsorption cooling systems and adsorbed natural gas storage.
- **I served as a supervisor of thermal energy laboratories** at the Mechanical Power Engineering Department, Mansoura University. These laboratories deal with a wide range of thermal applications including solar energy, cooling systems and water desalination.

Courses taught in undergraduate program

Energy conversion
Solar heating and cooling
New and renewable energy
Refrigeration & air conditioning
Fundamentals of thermo-fluids
Thermodynamics
Heat transfer
Heat & mass transfer
Steam technology
Theory of combustion
Power plants
Combustion engines
Measurements & Measuring devices

Courses taught in postgraduate program

Energy Resources Engineering
Renewable energy
Solar Energy
Solar cooling and heating

Participation in Academic Accreditation

Coordinator of Quality Assurance & Accreditation of Mechanical Power Engineering Department, Faculty of Engineering, Mansoura University, April 2010 – April 2011.

Training courses attended at Mansoura University, Egypt

1. Credit hours
2. Quality Assurance and Accreditation
3. Applying academic standards for educational program
4. Exams and students evaluation systems
5. Use of technology in teaching
6. Presentation skills
7. University management
8. Legal and financial aspects in university environment
9. University code of ethics

10. Conference organization
11. Competing for research funds
12. Managing research teams
13. International publishing of scientific research
14. Good practice in research QA and Accreditation (workshop)

Publications

i) Book Chapters

1. B.B. Saha, **I.I. El-Sharkawy**, Thermally powered adsorption cooling: Recent trends and applications, Chapter 2, pp 29-62, Heat Pipes and Solid Sorption Transformations, CRC press, Taylor and Francis Group, 2013, edited by L.L Vasiliev and Sadik Kakaç.
2. K.C. Ng, **I.I. El-Sharkawy**, B.B. Saha and A. Chakraborty, Adsorption desalination – a novel method, Chapter 9, *Handbook of Environmental Engineering*, Vol. 13 – Membrane and Desalination Technologies, Humana Press Inc, Totowa NJ.USA, 2011, edited by Lawrence K. Wang, J. Paul Chen, Yung-Tse Hung and Nazih K. Shammas.
3. **I.I. El-Sharkawy**, B.B. Saha, K.C. Ng and A. Chakraborty, Adsorption equilibrium measurement methods, Chapter 5, pp. 165-200, Advances in Adsorption Technology, Nova Science Publishers, ISBN: 978-1-60876-833-2, edited by Bidyut Baran Saha and Kim Choon Ng.
4. A. Chakraborty, K.C. Ng, B.B. Saha, **I.I. El-Sharkawy**, Theoretical insight of physical adsorption for a single component adsorbate system, Chapter 2, pp. 21-66, Advances in Adsorption Technology, Nova Science Publishers, ISBN: 978-1-60876-833-2, edited by Bidyut Baran Saha and Kim Choon Ng.

ii) Peer-Reviewed Journal Papers (ISI Journals)

1. Mohamed G. Gado, Tamer F. Megahed, Shinichi Ookawara, Sameh Nada, **Ibrahim I. El-Sharkawy**, Performance and economic analysis of solar-powered adsorption-based hybrid cooling systems, *Energy Conversion and Management*, Vol. 238, 114134, 2021. <https://doi.org/10.1016/j.enconman.2021.114134>
2. Mohamed A. Farahat, Hassan E.S. Fath, **Ibrahim I. El-Sharkawy**, Shinichi Ookawara, Mahmoud Ahmed, Energy/exergy analysis of solar driven mechanical vapor compression desalination system with nano-filtration pretreatment, *Desalination*, Vol. 509, 115078, 2021. <https://doi.org/10.1016/j.desal.2021.115078>
3. M.G. Gado, S. Ookawara, S. Nada, **I.I. El-Sharkawy**, Hybrid sorption-vapor compression cooling systems: A comprehensive overview, *Renewable and Sustainable Energy Reviews*, Vol. 143, 110912, 2021. <http://www.elsevier.com/locate/rser>
4. A.A. Hassan, A.E. Elwardany, S. Ookawara, M. Ahmed, **I.I. El-Sharkawy**, Integrated adsorption-based multigeneration systems: A critical review and future trends, *International Journal of Refrigeration*, Vol. 116, pp. 129-145, 2020. <https://doi.org/10.1016/j.ijrefrig.2020.04.001>
5. M.M. Younes, **I.I. El-Sharkawy**, A.E. Kabeel, K. Uddin, T. Miyazak, B.B. Saha, Characterization of silica gel-based composites for adsorption cooling applications, *International Journal of Refrigeration*, Vol. 118, pp. 345-353, 2020. <https://doi.org/10.1016/j.ijrefrig.2020.04.002>
6. A.S. Saad, **I.I. El-Sharkawy**, S. Ookawara, M. Ahmed, Performance enhancement of twisted-bladed Savonius vertical axis wind turbines, *Energy Conversion and Management*, Vol. 209, 112673, 2020. <https://doi.org/10.1016/j.enconman.2020.112673>

7. H.O. Helaly, M.M Awad, **I.I. El-Sharkawy**, A.M Hamed, Theoretical and experimental investigation of the performance of adsorption heat storage system, *Applied Thermal Engineering*, Vol. 147, pp. 10-28, 2019. <https://doi.org/10.1016/j.applthermaleng.2018.10.059>
8. M.M. Younes , **I.I. El-sharkawy**, A.E. Kabeel, K.Uddin , A. Pal, S. Mitra, K. Thu, B.B. Saha, Synthesis and characterization of silica gel composite with polymer binders for adsorption cooling applications, *International Journal of Refrigeration*, Vol. 98, pp. 161–170, 2019. <https://doi.org/10.1016/j.ijrefrig.2018.09.003>
9. M.M. Younes, **I.I. El-Sharkawy**, A.E. Kabeel, B.B. Saha, A review on adsorbent-adsorbate pairs for cooling applications, *Applied Thermal Engineering*, Vol. 114, pp. 394–414, 2017. <http://dx.doi.org/10.1016/j.applthermaleng.2016.11.138>
10. A. Pal, K. Thu, S. Mitra, **I.I. El-Sharkawy**, B.B. Saha, H. Kil, S. Yoon, J. Miyawaki, Study on biomass derived activated carbons for adsorptive heat pump application, *International Journal of Heat and Mass Transfer*, Vol. 110, pp. 7-19, 2017. <http://dx.doi.org/10.1016/j.ijheatmasstransfer.2017.02.081>
11. A. Pal, **I.I. El-Sharkawy**, B.B Saha, S. Jribi, T. Miyazaki, S. Koyama, Experimental investigation of CO₂ adsorption onto a carbon based consolidated composite adsorbent for adsorption cooling application, *Applied Thermal Engineering*, Vol. 109, Part A, pp. 304–311, 2016. <http://dx.doi.org/10.1016/j.applthermaleng.2016.08.031>
12. M. Sultan, **I.I. El-Sharkawy**, T. Miyazaki, B.B. Saha, S. Koyama, T. Maruyama, S. Maeda, T. Nakamura, Water vapor sorption kinetics of polymer based sorbents: Theory and experiments, *Applied Thermal Engineering*, Vol. 106, pp. 192-202, 2016. <http://dx.doi.org/10.1016/j.applthermaleng.2016.05.192>
13. **I.I. El-Sharkawy**, A. Pal, T. Miyazaki, B.B. Saha, S. Koyama, A study on consolidated composite adsorbents for cooling application, *Applied Thermal Engineering*, Vol. 98, No. 5, pp. 1214-1220, 2016. [doi:10.1016/j.applthermaleng.2015.12.105](https://doi.org/10.1016/j.applthermaleng.2015.12.105)
14. B.B. Saha, **I.I. El-Sharkawy**, M.W. Shahzad, K. Thu, Li Ang, K.C. Ng, Fundamental and application aspects of adsorption cooling and desalination, *Applied Thermal Engineering*, Vol. 97, No. 25, pp. 68-76, 2016. [doi:10.1016/j.applthermaleng.2015.09.113](https://doi.org/10.1016/j.applthermaleng.2015.09.113)
15. **I.I. El-Sharkawy**, M. H. Mansour, M. M. Awad, R. El-Ashry, Investigation of natural gas storage through activated carbon, *Journal of Chemical & Engineering Data*, Vol. 60, No. 11 , pp. 3215–3223, 2015. [DOI: 10.1021/acs.jced.5b00430](https://doi.org/10.1021/acs.jced.5b00430)
16. **I.I. El-Sharkawy**, K. Uddin, T. Miyazaki, B.B. Saha, S. Koyama, H. Kil, S.H Yoon, J. Miyawaki, Adsorption of ethanol onto phenol resin based adsorbents for developing next generation cooling systems, *International Journal of Heat and Mass Transfer*, Vol. 81, pp. 171-178, 2015. [doi:10.1016/j.ijheatmasstransfer.2014.10.012](https://doi.org/10.1016/j.ijheatmasstransfer.2014.10.012)
17. M. Sultan, **I.I. El-Sharkawy**, T. Miyazaki, B.B. Saha, S. Koyama, An overview of solid desiccant dehumidification and air conditioning systems, *Renewable and Sustainable Energy Reviews*, Vol. 46, pp. 16–29, 2015. [doi:10.1016/j.rser.2015.02.038](https://doi.org/10.1016/j.rser.2015.02.038)
18. M. Sultan, **I.I. El-Sharkawy**, T. Miyazaki, B.B. Saha, S. Koyama, T. Maruyama, S. Maeda, T. Nakamura, Insights of water vapor sorption onto polymer based sorbents, *Adsorption*, Vol. 21, No. 3, pp. 205-215, 2015. [DOI 10.1007/s10450-015-9663-y](https://doi.org/10.1007/s10450-015-9663-y)
19. B.B. Saha, **I.I. El-Sharkawy**, T. Miyazaki, S. Koyama, S.K. Henninger, A. Herbst, C. Janiak, Ethanol adsorption onto metal organic framework: Theory and experiments, *Energy*, Vol. 79, pp. 363-370, 2015. [doi:10.1016/j.energy.2014.11.022](https://doi.org/10.1016/j.energy.2014.11.022)
20. **I.I. El-Sharkawy**, H. AbdelMeguid, B.B. Saha, Potential application of solar powered adsorption cooling systems in the Middle East, *Applied Energy*, Vol. 126, pp. 235–245, 2014. [doi:10.1016/j.apenergy.2014.03.092](https://doi.org/10.1016/j.apenergy.2014.03.092)

21. **I.I. El-Sharkawy**, K. Uddin, T. Miyazaki¹, B.B. Saha, S. Koyama, J. Miyawaki and S.H. Yoon, Adsorption of ethanol onto parent and surface treated activated carbon powders, *International Journal of Heat and Mass Transfer*, Vol. 73, pp. 445–455, 2014. [doi:10.1016/j.ijheatmasstransfer.2014.02.046](https://doi.org/10.1016/j.ijheatmasstransfer.2014.02.046)
22. **K. Uddin, I.I. El-Sharkawy**, T. Miyazaki, B.B. Saha, S. Koyama, H.S. Kil, J. Miyawaki, S.H. Yoon, Adsorption characteristics of ethanol onto functional activated carbons with controlled oxygen content, *Applied Thermal Engineering*, Vol. 72 (2), pp. 211-218, 2014. [doi:10.1016/j.applthermaleng.2014.03.062](https://doi.org/10.1016/j.applthermaleng.2014.03.062)
23. **I.I. El-Sharkawy**, H. AbdelMeguid, B.B. Saha, Towards an optimal performance of **adsorption** chillers: Reallocation of adsorption/desorption cycle times, *International Journal of Heat and Mass Transfer*, Vol. 63, pp. 171–182, 2013. [doi:10.1016/j.ijheatmasstransfer.2013.03.076](https://doi.org/10.1016/j.ijheatmasstransfer.2013.03.076)
24. B.B. Saha, **I.I. El-Sharkawy**, R.N. Thorpe, R.E. Critoph, Accurate adsorption isotherms of R134a onto activated carbons for cooling and freezing applications, *International Journal of Refrigeration*, Vol. 35, No. 3, pp. 499-505, 2012. [doi:10.1016/j.ijrefrig.2011.05.002](https://doi.org/10.1016/j.ijrefrig.2011.05.002)
25. **I.I. El-Sharkawy**, On the linear driving force approximation for adsorption cooling applications, *International Journal of Refrigeration*, Vol. 34, No.3, pp. 667-673, 2011. [doi:10.1016/j.ijrefrig.2010.12.006](https://doi.org/10.1016/j.ijrefrig.2010.12.006)
26. B.B. Saha, S. Jribi, S. Koyama, **I.I. El-Sharkawy**, Carbon dioxide adsorption isotherms on activated carbons, *Journal of Chemical & Engineering Data*, Vol. 56, No. 5, pp. 1974–1981, 2011. [DOI: 10.1021/je100973t](https://doi.org/10.1021/je100973t)
27. A. Chakraborty, B.B. Saha, K.C. Ng, **I.I. El-Sharkawy**, S. Koyama, Thermodynamic property surfaces for adsorption of R507A, R134a, and n-Butane on pitch based carbonaceous porous materials, *Heat Transfer Engineering*, Vol. 31, No. 11, pp. 917–923, 2010. [DOI:10.1080/01457631003604152](https://doi.org/10.1080/01457631003604152)
28. W.S. Loh, M. Kumja, K. A. Rahman, K.C. Ng, B.B. Saha, S. Koyama, **I.I. El-Sharkawy**, Adsorption parameter and heat of adsorption of activated carbon/HFC- 134a pair, *Heat Transfer Engineering*, Vol. 31, No. 11, pp 910–916, 2010. [DOI:10.1080/01457631003603949](https://doi.org/10.1080/01457631003603949)
29. **I.I. El-Sharkawy**, M. Hassan, B.B. Saha, S. Koyama, M.M. Nasr, Study on adsorption of methanol onto carbon based adsorbents, *International Journal of Refrigeration*, Vol. 32, No. 7, pp. 1579-1586, 2009. [doi:10.1016/j.ijrefrig.2009.06.011](https://doi.org/10.1016/j.ijrefrig.2009.06.011)
30. B.B. Saha, K. Habib, **I.I. El-Sharkawy** and S. Koyama, Adsorption characteristics and heat of adsorption measurements of R-134a on activated carbon, *International Journal of Refrigeration*, Vol. 32, No. 7, pp. 1563-1569, 2009. [doi:10.1016/j.ijrefrig.2009.03.010](https://doi.org/10.1016/j.ijrefrig.2009.03.010)
31. T. Miyazaki, A. Akisawa, B.B. Saha, **I.I. El-Sharkawy** and A. Chakraborty, A new cycle time allocation for enhancing the performance of two-bed adsorption chillers, *International Journal of Refrigeration*, Vol. 32, No. 5, pp. 846-853, 2009. [doi:10.1016/j.ijrefrig.2008.12.002](https://doi.org/10.1016/j.ijrefrig.2008.12.002)
32. W.S. Loh, **I.I. El-Sharkawy**, K.C. Ng and B.B. Saha, Adsorption cooling cycles for alternative adsorbent/adsorbate pairs working at partial vacuum and pressurized conditions, *Applied Thermal Engineering*, Vol. 29, No. 4, pp. 793-798, , 2009. [doi:10.1016/j.applthermaleng.2008.04.014](https://doi.org/10.1016/j.applthermaleng.2008.04.014)
33. **I.I. El-Sharkawy**, B.B. Saha, S. Koyama, J. He, K.C. Ng and C. Yap, Experimental investigation on activated carbon–ethanol pair for solar powered adsorption cooling applications, *International Journal of Refrigeration*, Vol. 31, No. 8, pp. 1407-1413, 2008. [doi:10.1016/j.ijrefrig.2008.03.012](https://doi.org/10.1016/j.ijrefrig.2008.03.012)
34. B.B. Saha, **I.I. El-Sharkawy**, K. Habib, S. Koyama and K. Srinivasan, Adsorption of equal mass fraction near an azeotropic mixture of pentafluoroethane and 1,1,1-trifluoroethane on activated carbon, *Journal of Chemical & Engineering Data*, Vol. 53, No. 8, pp. 1872-1876, 2008. [DOI: 10.1021/je800204p](https://doi.org/10.1021/je800204p)

35. **I.I. El-Sharkawy**, He J, K.C. Ng, C. Yap, and B.B. Saha, Adsorption equilibrium and kinetics of gasoline vapors onto carbon-based adsorbents, *Journal of Chemical & Engineering Data*, Vol. 53, No. 1, pp. 41–47, 2008. [DOI: 10.1021/je700310w](https://doi.org/10.1021/je700310w)
36. B.B. Saha, S. Koyama, **I.I. El-Sharkawy**, K. Habib, K. Srinivasan and P. Dutta, Evaluation of adsorption parameters and heats of adsorption through desorption measurements, *Journal of Chemical & Engineering Data*, Vol. 52, No. 6, pp. 2419-2424, 2007. [DOI: 10.1021/je700369j](https://doi.org/10.1021/je700369j)
37. **I.I. El-Sharkawy**, B.B. Saha, S. Koyama and K. Srinivasan, Isosteric heats of adsorption extracted from experiments of ethanol and HFC 134a on carbon based adsorbents, *International Journal of Heat and Mass Transfer*, Vol. 50, No. 5-6, pp. 902-907, 2007. [doi:10.1016/j.ijheatmasstransfer.2006.08.036](https://doi.org/10.1016/j.ijheatmasstransfer.2006.08.036)
38. B.B. Saha, **I.I. El-Sharkawy**, A. Chakraborty, S. Koyama, Study on an activated carbon fiber-ethanol adsorption chiller: Part I—system description and modelling, *International Journal of Refrigeration*, Vol. 30, No. 1, pp. 86-95, 2007. [doi:10.1016/j.ijrefrig.2006.08.004](https://doi.org/10.1016/j.ijrefrig.2006.08.004)
39. B.B. Saha, **I.I. El-Sharkawy**, A. Chakraborty, S. Koyama, Study on an activated carbon fiber-ethanol adsorption chiller: Part II— Performance evaluation, *International Journal of Refrigeration*, Vol. 30, No. 1, pp. 96-102, 2007. [doi:10.1016/j.ijrefrig.2006.08.005](https://doi.org/10.1016/j.ijrefrig.2006.08.005)
40. B.B. Saha, **I.I. El-Sharkawy**, S. Koyama, J.B. Lee, K. Kuwahara, Waste heat driven multi-bed adsorption chiller: heat exchangers overall thermal conductance on chiller performance, *Heat Transfer Engineering*, Vol. 27, No. 5, pp. 80-87, 2006. [DOI:10.1080/01457630600560742](https://doi.org/10.1080/01457630600560742)
41. **I.I. El-Sharkawy**, B.B. Saha, S. Koyama, K.C. Ng, A study on the kinetics of ethanol-activated carbon fiber: theory and experiments, *International Journal of Heat and Mass Transfer*, Vol. 49, No. 17-18, pp. 3104-3110, 2006. [doi:10.1016/j.ijheatmasstransfer.2006.02.029](https://doi.org/10.1016/j.ijheatmasstransfer.2006.02.029)
42. **I.I. El-Sharkawy**, K. Kuwahara, B.B. Saha, S. Koyama, K.C. Ng, Experimental investigation of activated carbon fibers/ethanol pairs for adsorption cooling system application, *Applied Thermal Engineering*, Vol. 26, No. 8-9, pp. 859-865, 2006. [doi:10.1016/j.applthermaleng.2005.10.010](https://doi.org/10.1016/j.applthermaleng.2005.10.010)
43. B.B. Saha, **I.I. El-Sharkawy**, A. Chakraborty, S. Koyama, S.H. Yoon, K.C. Ng, Adsorption rate of ethanol on activated carbon fiber, *Journal of Chemical & Engineering Data*, Vol. 51, No. 5, pp. 1587-1592, 2006. [DOI: 10.1021/je060071z](https://doi.org/10.1021/je060071z)
44. B.B. Saha, **I.I. El-Sharkawy**, A. Chakraborty, S. Koyama, N.D. Banker, P. Dutta, M. Prasad, K. Srinivasan, Evaluation of minimum desorption temperatures of thermal compressors in adsorption refrigeration cycles, *International Journal of Refrigeration*, Vol. 29, No. 7, pp. 1175-1181, 2006. [doi:10.1016/j.ijrefrig.2006.01.005](https://doi.org/10.1016/j.ijrefrig.2006.01.005)
45. B.B. Saha, S. Koyama, **I.I. El-Sharkawy**, K. Kuwahara, K. Kariya, K.C. Ng, Experiments for measuring adsorption characteristics of activated carbon fiber/ethanol pair using a plate-fin heat exchanger, *HVAC&R Research*, Vol. 12, No. 3b, pp. 767-782, 2006. [DOI:10.1080/10789669.2006.10391206](https://doi.org/10.1080/10789669.2006.10391206)
46. H.E. Gad, A.M. Hamed and **I.I. El-Sharkawy**, Application of a solar desiccant/collector system for water recovery from atmospheric air, *Renewable Energy*, Vol. 22, No. 4, pp. 541-556, 2001. [doi:10.1016/S0960-1481\(00\)00112-9](https://doi.org/10.1016/S0960-1481(00)00112-9)

iii) Peer-Reviewed Journal Papers

47. A. Chakraborty, B.B. Saha, **I.I. El-Sharkawy**, S. Koyama, K. Srinivasan and K.C. Ng, Theory and experimental validation on isosteric heat of adsorption for an adsorbent + adsorbate system, *High Temperatures-High Pressures*, Vol. 37, No. 2, pp. 109–117, 2008.(available on Scopus)

48. **I.I. El-Sharkawy**, K. Thu, K.C. Ng, B.B. Saha, A. Chakraborty and S. Koyama, Performance improvement of adsorption desalination plant: experimental investigation, *International Review of Mechanical Engineering (I.R.E.M.E.)*, Vol. 1, No. 1, pp. 25-31, 2007. <http://www.praiseworthyprize.org/jsm/index.php?journal=ireche&page=article&op=view&path%5B%5D=0127>

iv) International Conference Papers

49. A.A. Hassan, A.E. Elwardany, S. Ookawara, **I.I. El-Sharkawy**, Performance investigation of integrated PVT/adsorption cooling system under the climate conditions of middle east, *7th International Conference on Energy and Environment Research, ICEER 2020*, 14-18 September, ISEP, Porto, Portugal (*published in Energy Reports*).
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