
M. L. PALASH

Ph.D. Scholar, Green Asia Program, Kyushu University.

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PROFILE SUMMARY

- Ph.D. in Energy and Environmental Engineering, two master degrees
 - 5⁺ years of research experience green energy systems in three different universities
 - 5⁺ years of teaching experience in two different universities
 - 10⁺ international award holder on academic and research excellence including President and Dean's award
 - 5+ recipient of grants for conducting research on green energy systems
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RESEARCH AREAS

- Carbon neutral energy conversion or utilization systems
- Surface energy, surface chemistry and adsorption phenomena of functional adsorbents
- Adsorbents material synthesis (parent and composites) and characterization for thermal energy-driven adsorption cooling/refrigeration systems, and energy storage, CO₂ capture or storage applications
- Design of thermal or renewable energy-driven adsorption systems
- Design and development of Atmospheric Water Harvester (AWH)

ACADEMIC QUALIFICATIONS

Degree	Field	University	From - To
Ph. D.	Energy & Environmental Engineering	Kyushu University, Japan	Oct. 2017 – Sept 2020
Master of Engineering (M. Eng.)	Energy & Environmental Engineering	Kyushu University, Japan	Oct. 2015 - Sept. 2017
Master of Science (M.S.)	Applied Physics, Electronics and Communication Engineering	University of Dhaka, Dhaka, Bangladesh	Mar 2008 - Mar. 2009
Bachelor of Science (B.S.)	Applied Physics, Electronics and Communication Engineering	University of Dhaka, Dhaka, Bangladesh	May 2002 - Sept 2007

WORK EXPERIENCE

1. **Assistant Professor**, Department of Electrical and Electronic Engineering, University of Dhaka, Bangladesh, Dec 2013 - present.
2. **Lecturer**, Department of Electrical and Electronic Engineering, University of Dhaka, Bangladesh, Sept 2010 – Dec 2013.
3. **Lecturer**, Department of Electronics and Communication Engineering, Institute of Science and Technology, Bangladesh, Jan. 2010 – Sept. 2010
4. **Part-time lecturer**, Institute of Leather Technology, University of Dhaka, Bangladesh, Jan. 2012 – Dec 2013
5. **Part-time lecturer**, Department of Nuclear Engineer, University of Dhaka, Bangladesh, Jan. 2014 – Dec 2014

INTERNSHIP/RESEARCH ASSOCIATE

1. **Nanyang Technological University (NTU)**, School of Mechanical & Aerospace Engineering, Nanyang Technological University, Singapore., Feb. 2018 – Mar. 2018.
2. **Ritsumeikan Asia Pacific University (APU)**, College of International Management, Oita, Japan, Jun. 2017 – Jul. 2017.
3. **Robi Axiata Limited**, Network Operation Center, Technical Division, Bangladesh, May 2008 – Aug. 2008.

PROJECT WORKS

1. B.B. Saha (PI), K. Thu (Co-PI), **M. L. Palash (Collaborator)**, T.H. Rupam (Collaborator), D. Rakshit (Indian-side PI, IIT Delhi), S. Jain (Co-PI), S.S. Yagnamurthy (Collaborator), Characterization and testing of the adsorption pairs of HFOs and ammonia with halide salts and functional activated carbon groups for application in adsorption heat pump/cooling systems, Scheme for Promotion of Academic and Research Collaboration (SPARC) Project, MHRD, Govt. of India, Duration: April 2019 to March 2021.
2. B.B. Saha (PI), T. Miyazaki (Collaborator), **M. L. Palash (Collaborator)**, M.S. Sultana (Bangladesh-side Coordinator, Jahangirnagar University), F. Islam (Collaborator), M.A.H. Bhuiyan et al., Physico-chemical study to determine the impact of salinity on soil property and agro produced of delta region and its remediation, JSPS-UGC joint Research Project, Duration October 2018 to September 2020.

RESEARCH EXPERIENCE

University/Institution	Status	Field	From - To
Kyushu University, Japan	Doctoral study	Study on metal-organic frameworks for adsorption heat pump systems.	Oct. 2017 – Continuing
World Premier International Research Center (WPI)-I2CNER, Japan	WPI Research Support Staff	Surface energy study on porous materials for adsorption heat pumps, and Synthesis and characterization metal-organic frameworks for adsorption heat pump systems	Oct. 2017 – Sept. 2019
Nanyang Technological	Internship (abroad Japan)	Synthesis of metal-organic frameworks using hydrothermal process	Feb. 2018 – Mar. 2018

University (NTU), Singapore			
Kyushu University, Japan	Master course study	Topographic analysis of adsorbents using probe-based imaging technique	Oct. 2015 – Sept. 2017
Ristumeikan Asia Pacific University (APU), Oita, Japan	Internship (in Japan)	Socio-economic-environmental (SE2) impact of thermal power plan in developing countries	Jun. 2017 – Jul. 2017
University of Dhaka	Faculty member	Energy materials for the development of sustainable systems	Jan. 2015 – Sept. 2015
University of Dhaka	Faculty member	Frequency mapping for cooperative and cognitive radio networks	Jan. 2013 – Dec. 2015
University of Dhaka	Faculty member	Dynamic frequency distribution for wireless networks	Jan. 2010 – Dec. 2012
University of Dhaka	Master course study	Coverage planning of mobile WiMAX in urban and suburban environment using power scheduling scheme	Mar. 2008 – Mar. 2009
University of Dhaka	Bachelor course study	Survivability and fault tolerance of hierarchical MIP6	Jan. 2006 – Sept. 2006

AWARDS AND HONORS

1. **“Young Researcher Award on Energy Research”**, Part of my research proposal was awarded for **“Silver Award”** with research grant of 0.4 Million JPY. The award was given by the president of Kyushu University under the "Kyushu University Platform of Inter-/Transdisciplinary Energy Research", Jan. 28, 2020, Fukuoka, Japan
2. **“President’s award”**, for producing the most excellent results in the Kyushu University, Japan Challenge and Creation Project 2018 for independent research and investigations, March 29, 2019.
3. **“Best Poster award”**, for conference paper presented at International Exchange and Innovation conference on Engineering & Sciences, Oct. 18-19, 2018, Fukuoka, Japan.
4. **“IGSES Fund, Kyushu University”**, for participating Hult Prize Global Accelerator Program 2018 in UK worth to 0.9 million JPY.
5. **“Hult Prize National Championship, Japan**, as a team leader of S-cube, we have won the national championship of Japan for our project titled as “Distributed system for the farmers of Bangladesh”, May 19-20, 2018, Osaka, Japan
6. **“QREC Challenge and Creation Award”**, won the challenge with 0.5 million JPY grant as a team member of S-cube, Kyushu University, May 13, 2018, Fukuoka, Japan.
7. **“QREC Jump Out Challenge Award”**, won the challenge as a team member of S-cube, Kyushu University, April 24, 2018, Fukuoka, Japan.
8. **WPI Research Support Staff**, World Premier International (WPI) Research Center, International Institute for Carbon-Neutral Energy Research, Kyushu University, Apr. 1, 2018-Mar. 31, 2019, Fukuoka, Japan.
9. **“QREC Global Challenge and Creation Award”**, won the challenge as a team member of S-cube, Kyushu University, Jan. 16 2018, Fukuoka, Japan.

10. **"Young Researcher Award on Energy Research"**, Part of my research proposal was awarded for **"Bronze Award"** with research grant of 0.3 million Yen. The award was given by the president of Kyushu University under the "Kyushu University Platform of Inter-/Transdisciplinary Energy Research", Jan. 30, 2018, Fukuoka, Japan
11. **"Hult Prize Kyushu University Championship, Japan"**, as a team leader of S-cube, we have won the national championship of Japan for our project titled as "Distributed system for the farmers of Bangladesh", Dec. 17, 2017, Fukuoka, Japan.
12. **IGSES DEANS' AWARD-2017**, Awarded for outstanding research and academic performance at masters thesis, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Sept. 25, 2017, Fukuoka, Japan.
13. **Green Asia Research Assistance (GA-RA)**, Advanced Graduate Program in Global Strategy for Green Asia, Kyushu University, Japan, Apr. 1, 2016 - Sept. 30, 2018.
14. **Scholarship for Master leading to Ph. D.** under the prestigious program "Advanced Graduate Program in Global Strategy for Green Asia", Kyushu University, Japan (Period: Oct. 2015 - Sept. 2020).

SHORT-TERM FIELDWORKS AND TRAININGS

1. Hult Prize 2018 Global Accelerator Program, Hult Business School, London, UK (July 21 – Sept. 01, 2018).
2. Short-term field work FY2016 at National Yat-sen University, Taiwan Semiconductor Manufacturing Company (TSMC), Sinopharm at Kaohsiung, Taiwan (Jan 16-19, 2017).
3. Short-term fieldwork for 4 days at Yonsei University, Seoul, South Korea (Feb. 3-6, 2016).
4. Domestic (Japan) factory visit for 2 days at Nippon Steel & Sumitomo Metal Corp. in Oita factory and Toyota Motor Kyushu Inc. (Miyata plant) (Dec. 10-11, 2015).

JOURNAL PUBLICATIONS

1. **M. L. Palash**, A. Pal, T. H. Rupam, B. Duck B. B. Saha, "Surface characterization of different particulate silica gels at infinite dilution" *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 603, 125209.
2. **M. L. Palash**, I. Jahan, T. H. Rupam., S. Harish, B. B. Saha, "Novel technique for improving the water adsorption isotherms of metal-organic frameworks for performance enhancement of adsorption driven chillers", *Inorganica Chimica Acta*, 501 (2020).
3. I. Jahan, M. A. Islam, **M. L. Palash**, K. A. Rocky, T. H. Rupam, B. B. Saha, "Experimental study on the influence of metal doping on thermophysical properties of porous aluminum fumarate", *Heat Transfer Engineering*, 42 (13-14), **2020. (accepted)**.
4. **M. L. Palash**, T. H. Rupam, Animesh Pal, Anutosh Chakraborty, Bidyut Baran Saha, "Insights into the adsorbed phase entropy for ethanol adsorption on activated carbons in Henry's region"-**submitted**.
5. L. G. Gordeeva, Y. Tu, Q. Pan, **M. L. Palash**, Bidyut Baran Saha, Yuri I. Aristov, Ruzhu Wang, "Opportunities and challenges of metal organic frameworks for energy conversion and water harvesting: a bridge between thermal engineering and material science"-**under revision**.
6. **M. L. Palash**, Sourav Mitra, Shivasankaran Harish, Kyaw Thu, Bidyut Baran Saha, "An approach for quantitative analysis of pore size distribution of silica gel using atomic force microscopy, *International Journal of Refrigeration*", 105, pp. 72-79 (2019).

7. Md. Zahir Uddin Suja, Sunayana Binte Bashar, **M. L. Palash**, Subrata Das, "Parametric Study on subwavelength plasmonic nanostructure for enhanced optical transmission", *Journal of the Bangladesh Electronics Society*, 14(1-2), pp. 35-42 (2014).
8. **M. L. Palash**, M. Billah, M. J. Rashid, "Coverage planning of mobile WiMAX for the urban and suburban environment using power scheduling scheme". *International Journal of Innovative Technology and Exploring Engineering*, *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, 3(5), pp 66-70 (2013).
9. **M. L. Palash**, Md. Zahirul Hoque Mozumder, "Nanotechnology and Governance in Bangladesh", *Nanotechnology Law and Business*, 10(2), pp. 146-156 (2013).
10. Masum Billah, **M. L. Palash**, H. M. M Alam, "Load Balanced Routing Protocols for Ad Hoc Mobile Wireless Networks", *International Journal of Engineering and Advanced Technology (IJEAT)*, 3(1), pp. 164-167 (2013).
11. Santa Rahman, Md Nahid Hossain, Md Nizam Sayeed, **M. L. Palash**, "Comparative study between wireless regional area network (IEEE standard 802.22) and WiMAX and coverage planning of a wireless regional area network using cognitive radio technology", *International Journal of Recent Technology and Engineering (IJRTE)*, 1(6), pp. 161- 163 (2013).
12. Md. Amirul Islam, **M. L. Palash**, Md. Habibur Rahman," A Microcontroller Based Digital Data Logger System for Solar Radiation Measurement", *Journal of the Bangladesh Electronics Society*, 13 (1-2), pp. 73-79 (2013).
13. Ayesha Zaman, **M. L. Palash**, Tanvir Atahari, Shahida. Rafique, "Comparison of Survivability & Fault Tolerance of Different MIP Standards", *Radioelectronics & Informatics*, 4, pp. 14-17 (2009).
14. S. Sajeed, D. L. Kabir, **M. L. Palash**, N. Sultan, S. Rafique, "An Experimental Demonstration of Self-similarity in the Dhaka University Network Data Traffic, *Dhaka University Journal of Applied Science and Engineering*, Volume 1 (1), July 2010.

CONFERENCE/SYMPOSIUM PROCEEDINGS AND PRESENTATIONS

1. **M. L. Palash***, Animesh Pal, Bidyut Baran Saha, "Investigation of surface energy of porous adsorbents", 5th International exchange and Innovation Conference on Engineering & Sciences (IEICES 2019), pp. 32-33, Oct 24-25, 2019, Fukuoka, Japan. (**Oral presentation**)
2. Tahmid Hasan Rupam*, **M. L. Palash**, Israt Jahan, Bidyut Baran Saha, "Adsorption characteristic of aluminium fumarate metal-organic frameworks", 5th International exchange and Innovation Conference on Engineering & Sciences (IEICES 2019), pp. 34-35 Oct 24-25, 2019, Fukuoka, Japan.
3. T. H. Rupam*, **M. L. Palash**, Israt Jahan, S. Bhaumik and B. B. Saha "Shifting of adsorption isotherm induced by transitional metal doping in aluminum fumarate" International Conference on "Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019)" Agartala, Tripura, India, 12-14 December 2019. (**Best Presentation Award**).
4. Tahmid Hasan Rupam*, **M. L. Palash**, Israt Jahan, Bidyut Baran Saha, "Adsorption characteristic of aluminium fumarate metal-organic frameworks", 5th International exchange and Innovation Conference on Engineering & Sciences (IEICES 2019), pp. 34-35 Oct 24-25, 2019, Fukuoka, Japan.

5. **M. L. Palash***, Animesh Pal, Kyaw Thu, Bidyut Baran Saha, "Study on Surface Characteristics of Various Adsorbents using Inverse Gas Chromatography", 5th International Conference on Polygeneration (ICP 2019), May 15-17, 2019, Fukuoka, Japan. (Poster **presentation**)
6. B. B. Saha*, **M. L. Palash**, "Metal-organic Frameworks as adsorbents for heat pump applications", the International Workshop on Environmental Engineering 2019, Nago, Okinawa, Japan, June 25-28, 2019.
7. **M. L. Palash***, Kyaw Thu, Bidyut Baran Saha, "Qualitative and Quantitative characterization of nanoporous materials" International Exchange and Innovation Conference on Engineering & Sciences, Oct. 18-19, 2018, Fukuoka, Japan. (Poster **presentation**) (**Best poster award**)
8. **M. L. Palash***, Kyaw Thu, Bidyut Baran Saha, "Surface Characterization of Porous Materials for Adsorption Cooling Systems", International Conference on Material Science and Semiconductor Devices, Sept. 7-8, 2018, Dhaka, Bangladesh. (Oral **presentation**)
9. **M. L. Palash***, S. Mitra, S. Harish, Kyaw Thu, B. B. Saha, "Topographic analysis of silica gel imaged with atomic force microscopy", The 18th Cross-Straits Symposium on Energy and Environmental Science & Technology, pp. 47-48, Dec. 4-6, 2016, Shanghai, China. (Oral **presentation**)
10. **M. L. Palash***, S. Mitra, S. Harish, Kyaw Thu, K. Takahashi, B.B. Saha "An Approach for Quantitative Analysis of Pore Size Distribution of Silica Gel Using Atomic Force Microscopy", International Sorption Heat Pump Conference (ISHPC 2017), Aug. 7-10, 2017, Tokyo, Japan. (Oral **presentation**)
11. **M. L. Palash*** "Topographic analysis of silica gel imaged with Scanning Probe Microscopy", FY2016 Green Asia Program Short-term Fieldwork in Taiwan, Jan. 17-19, 2017, Kaohsiung, Taiwan. (Oral **presentation**)
12. **M. L. Palash***, S. Mitra, K. Thu, B. B. Saha, "Implementing direct imaging technique for quantitative analysis of surface porosity of mesoporous adsorbents", Q-PIT annual symposium, Jan. 30, 2018, Fukuoka, Japan. (Oral **presentation**)
13. **M. L. Palash***, S. Mitra, K. Thu, B. B. Saha, "Study of In-situ and Ex-situ Porosity Of Mesoporous Silica Gel", International Forum for Green Asia 2017, Kyushu University, November, 2017, Fukuoka, Japan. (Oral **presentation**)
14. **M. L. Palash***, Zahirul Haque Mazumder, "Nanotechnology and Governance in Bangladesh", Nanotechnology- in the edge of convergence, Nov. 24-27, 2011, Selangor, Malaysia. (Oral **presentation**)

*presenting author

SKILLS

Experimental techniques:

- Material synthesis (Hydrothermal process for MOFs, In-situ, Ex-situ doping and composites)
- Imaging techniques (Atomic Force Microscopy, Scanning Electron Microscopy)
- Measuring of pore size distribution (N₂ adsorption, 3D imaging)
- Surface energy measurement (Inverse gas chromatography, Atomic Force Microscopy, FTIR)
- Adsorption characterization (Thermo-gravimetric analysis)

Language skills: English (Fluent), Bengali (Native), Hindi (workable), Japanese (workable), Arabic(reading)

Programming language: C, C++, Assembly

EXTRACURRICULAR ACTIVITIES

- Winner, Kyushu Summer Cup 2019, played as captain of “Team Bangladesh” cricket team, Fukuoka, Japan
 - Runner-up, KUFSA Badminton Tournament 2019, Kyushu University, Fukuoka, Japan
 - Six-time winner of Inter Department Basketball Tournament, University of Dhaka, Bangladesh
 - Participated in Inter Department Cricket Tournament at University of Dhaka as a strike bowler
 - Participated in Inter Department Football Tournament at University of Dhaka, played centre-back defender
 - Winner, Inter department Soft-ball tournament, IGSES faculty, Kyushu University, Japan
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PERSONAL DETAILS

Father's Name	: Late Md Fazlul Haque	Marital Status	: Married
Mother's Name	: Khawla Khatun	Nationality	: Bangladeshi (by birth)
Date of Birth	: May 06, 1983	Religion	: Muslim
Gender	: Male		
Current Address	819-1105 Fukuoka-ken, Japan, Nishi-ku, Imajukunishi, 1-7-8, Room no: 303		
Permanent Address	Vill.: Shayestabad, Thana: Barisal Sadar, Dist.: Barisal, Country: Bangladesh		