

**Dr. Abdul Momin**

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Assistant Professor in Agricultural Engineering Technology  
Tennessee Tech University at Cookeville, TN, 38505**Vision**

My vision is the implication of digital technologies in the agri-food sector to provide abundant and high-quality food while minimizing environmental impacts.

**Educational background**

Name of Degree	University	Date of Degree
Ph.D. in Agricultural Science	Kyoto University, Japan	03/25/2013
M.S. in Agricultural Engineering	Bangladesh Agricultural University	07/20/2006
B.Sc. in Agricultural Engineering	Bangladesh Agricultural University	08/16/2004

**Areas of Research Interest**

- Internet of things (IoT) in agriculture
- Precision soil and crop engineering
- Postharvest technologies: drying/storage/quality
- Spectroscopic measurement techniques & analysis
- Computer vision and image processing
- Precision postharvest engineering
- Bioinstrumentation and biosensing
- High throughput in-field phenotyping

**Technical Skills**

- Microsoft Suite (Word, Excel, PowerPoint, Outlook)
- MATLAB: image processing, data analysis
- National Instruments LabVIEW and CompactRIO
- Microsoft Visual C++ & OpenCV: Image processing
- SAS University Edition
- Project management
- QGIS: analysis of geospatial data
- PLS Toolbox: Model development
- The Unscrambler: Camo-Analysis
- Python

**Employment background**

Name of organization/place	Position	Date of employment
Tennessee Tech University	Assistant Professor	01/01/2023 - date
University of Arkansas at Pine Bluff	Assistant Professor	08/01/2021 – 12/31/2022
Dept. of Health Care Services, CA	Research Data Specialist	02/18/2020 – 07/31/2021
University of California Davis	Postdoctoral Scholar	01/01/2018 – 02/15/2020
University of Illinois at Urbana-Champaign	Postdoctoral Researcher	03/21/2016 – 12/31/2017
North Dakota State University	Research Specialist	11/21/2014 – 05/21/2015
Bangladesh Agricultural University	Assistant Professor	04/30/2007 – 03/24/2013
Bangladesh Agricultural University	Lecturer	04/30/2005 – 04/29/2007

**Undergraduate teaching experience**

University	List of courses
Tennessee Tech University	AGR 1020 Connections to Agriculture, AGET 3520 Agricultural Spatial Technology, AGET 3540 Application of GIS and GPS in Agriculture and Natural Resources, AGET 4220 Agri Machinery/Tractors, AGET 4620 Agricultural Structures, AGET 4850 Engineering Tech Design
University of Arkansas at Pine Bluff	AGEN 3385 Agricultural Tractor Power, AGEN 4325 Design of Agricultural Structures, AGEN 3365 Food Process Engineering, AGEN 4340 Design of Agricultural Field Machinery

University of Illinois (instructor)	ABE 464 Engine and Tractor Power, ABE 361 Off-road Machine Design, TSM 262 Off-road Equipment Management
Bangladesh Agricultural University	FPM 111 Farm Mechanics, FPM 121 Elements of Agricultural Engineering, FPM 311 Agricultural Power, FPM 321 Agricultural Machinery, FPM 325 Heat and Mass Transfer, FPM 401 Agricultural Mechanization; FPM 403 Agricultural Process Engineering, FPM 425 Agricultural Machinery Design

### Graduate teaching experience

University	Date/semester	List of courses
University of Arkansas at Pine Bluff	Fall 2021	GAGRI 6408 Postharvest Physiology
Bangladesh Agricultural University	04/01/2013 – 03/15/2016	FPM 501 Farm Power, FPM 503 Instrumentation FPM 508 Bio-resources Engineering

### Research Grants

Title of project	Supporting agency	Awarded	Served as	Year
Engaging Students Through Affordable and Open-Source Precision Agriculture Practices for Experiential Learning	TN Tech CITL	\$8,000	PI	2024
Corn yield assessment using low-cost spatial technologies to increase production efficiency and profitability	Tennessee Corn Promotion Board	\$29,920	PI	2024
Spatial variability of rice and soybean yield assessment using low-cost precision agriculture technologies	NIFA Research Capacity Fund (Evans-Allen)	\$60,000	PI	2022
Adaptation of BAU-STR dryer for postharvest loss reduction and livelihood improvement of underserved communities	United States Agency for International Development (USAID)	\$150,000	PI	2022
The Farm of the Future: Harnessing Data-Driven Technology for a Sustainable US Agricultural System. Submitted as Subcontractor with Cornell University	USDA NIFA	\$136,600	Co-PI	2022
Development of a computer vision system for grading mango	The World Academy of Science (TWAS grants)	\$10,000	PI	2014
Appropriate Paddy Drying Technologies for Small Traders and Farmers	Feed the Future program and USAID	\$160,000	Co-PI	2014
Detection of ripped mango using machine vision	Min. of ICT, Govt. of Bangladesh	\$2,000	PI	2013
Feasibility of image processing technique for classification mango	University Grants Commission, Bangladesh	\$2,000	PI	2013

### List of Publications

#### Journal Publications

-----2024-----

- 43 Onsawai P, Momin MA, Phetpan K, Thongphut C, Panmanas Sirisomboon P, Rattanamechaiskul C. 2024. On-Tree Non-Destructive Maturity Classification of Durian Fruits Using Ultra Micro Longwave NIR Spectrometer and Supervised Learning, Computers and Electronics in Agriculture (under review)
- 42 Al Riza DF, Tulsi AA, Momin MA. 2024. Assessing Cocoa beans fermentation degree with improved YOLOv8 instance segmentation, Computers and Electronics in Agriculture (under review)

- 41 Alam MF, **Momin MA**, Hossain MI, Akter S, Khan AU, and Ahmmed MM. (2024). Field performance evaluation of a power tiller operated potato planter. *Aust. J. Eng. Innov. Technol.*, 6(1), 19-25. <https://doi.org/10.34104/ajeit.024.019025>
- 2023**-----
- 40 Rahman, M.B.; Chakma, J.D.; **Momin, A.**; Islam, S.; Uddin, M.A.; Islam, M.A.; Aryal, S. Smart Crop Cultivation System Using Automated Agriculture Monitoring Environment in the Context of Bangladesh Agriculture. *Sensors* 2023, 23, 8472. <https://doi.org/10.3390/s23208472>
- 39 **Momin, A.**; Kondo, N.; Al Riza, D.F.; Ogawa, Y.; Obenland, D. A Methodological Review of Fluorescence Imaging for Quality Assessment of Agricultural Products. *Agriculture* 2023, 13, 1433. <https://doi.org/10.3390/agriculture13071433>
- 38 Martins C.G, Valente DSM, Queiroz DM, **Momin A**, Fernandes-Filho EI, Picanço MC. Using Deep Neural Networks to Evaluate Leafminer Fly Attacks on Tomato Plants. *AgriEngineering*. 2023; 5(1):273-286. <https://doi.org/10.3390/agriengineering5010018>
- 2022**-----
- 37 Dien, A., **Momin, M. A.**, Ying, T., Spang, E., Kornbluth, K., Irwin, D.G. 2022. Performance evaluation of a commercially available desiccant-based seed drying system (FlexiDry®) using corn kernels (*Zea Mays*), *Journal of the ASABE*, 65(3): 633-643. (doi:10.13031/ja.14762)
- 36 Rahman M., Faisal A., Shamsuddin S., Salvatore G., Mohammad K., Hafijur R., **Momin MA.**, Hossain M., Emad IG. 2022. GIS and Remote Sensing-Based Multi-Criteria Analysis for Delineation of Groundwater Potential Zones: A Case Study for Industrial Zones in Bangladesh. *Sustainability* 2022, 14(11), 6667; <https://doi.org/10.3390/su14116667>
- 35 Louis, L., Bruno T., James, T., Lizzie, S., **Momin, MA**, Spyros, F., Luigi, M., Yiannis, A., Schueller, JK., and Raj K. 2022. Yield sensing technologies for perennial and annual horticultural crops: a review. *Precision Agric* (2022). <https://doi.org/10.1007/s11119-022-09906-2>
- 2021**-----
- 34 **Momin, M.A.**, T.E. Grift., and A.C. Hansen. 2020. Assessment of sugarcane lodging using machine vision. *Computers and Electronics in Agriculture*. (in progress).
- 2020**-----
- 33 Grift, T.E., **M.A. Momin**, R. Reis, R. Shaheb, A. Sarker, I. Ono, M. Bohn. 2020. Computer versus human assessment of Maize Root Top Angle. *Biosystems Engineering*. (in progress).
- 32 Donis-González, I.R.; Valero, C.; **Momin, M.A.**; Kaur, A.; C. Slaughter, D. Performance Evaluation of Two Commercially Available Portable Spectrometers to Non-Invasively Determine Table Grape and Peach Quality Attributes. *Agronomy* 2020, Vol.10, P.148.
- 2019**-----
- 31 Valente, S.D., **M. A. Momin**, T. E. Grift, and A.C. Hansen. Accuracy and precision evaluation of two low-cost RTK Global Navigation Satellite Systems, *Computer and Electronics in Agriculture*, Vol. 168, No. 105142, December 2019. <https://doi.org/10.1016/j.compag.2019.105142>.
- 30 **M. A. Momin**, T. E. Grift, S. Valente, and A.C. Hansen. Sugarcane yield mapping based on vehicle tracking, *Precision Agric* (2019) 20: 896. , <https://doi.org/10.1007/s11119-018-9621-2>
- 29 Edward S. Spang, Laura C. Moreno, Sara A. Pace, Yigal Achmon, Irwin Donis-Gonzalez, Wendi A. Gosliner, Madison P. Jablonski-Sheffield, **Md Abdul Momin**, Tom E. Qusted, Kiara S. Winans, Thomas P. Tomich. Food Loss and Waste: Measurement, Drivers, and Solutions, *Annual Review of Environment and Resources*, Vol. 44, pp. 13.1–13.40, August 2019. <https://doi.org/10.1146/annurev-environ-101718-033228>.
- 2018**-----
- 28 Hao Gan, Sunil Mathanker, **Md Abdul Momin**, Brendan Kuhns, Neal Stoffel, Alan Hansen, and Tony Grift. Effects of three cutting blade designs on energy consumption during mowing-conditioning of *Miscanthus Giganteus*, *Biomass and Bioenergy*, Vol. 109, pp. 166-171, 2018.
- 2017**-----
- 27 Tony E. Grift, Wei Zhao, **Md Abdul Momin**, Yu Zhang and Martin O. Bohn. Semi-automated, machine vision based maize kernel counting on the ear, *Biosystems Engineering*, Vol. 164, pp. 171-180, 2017.
- 26 **M. A. Momin**, P.A. Wempe, T. E. Grift, and A.C. Hansen. Effects of four base cutter blade designs on sugarcane stem cut quality, *Transactions of the ASABE*, Vol. 60(5), pp. 1551-1560, 2017.

- 25 **Md Abdul Momin**, Kazuya Yamamoto, Munenori Miyamoto, Naoshi Kondo and Tony Grift. Machine vision based soybean quality evaluation, *Computer and Electronics in Agriculture*, Vol. 140, pp. 452-460, 2017.
- 24 **M. A. Momin**, M. T. Rahman, M. S. Sulatana, C. Igathinathane, and A.T.M. Ziauddin. Geometry-based mass grading of mango fruits using image processing, *Information Processing in Agriculture*, Vol. 4, pp. 150–160, 2017.
- 23 Yuesheng Tan, Zewei Miao, **Momin M. Abdul**, Tony E. Grift, and K.C. Ting. Electrical capacitance as a proxy measurement of miscanthus bulk density, and the influence of moisture content and particle size, *Computer and Electronics in Agriculture*, Vol. 134, pp. 102-108, 2017.

-----**2016**-----

- 22 M.A. Alam, C.K. Saha, **M.A. Momin**, M.M. Alam and B.K. Bala. Spatial distribution of temperature and moisture in grain bin and grain bin size effect on STR dryer performance in Bangladesh, *J. Agril. Mach. Bioresour. Eng.* Vol 7(1).pp 1-8, 2016.
- 21 M. Alam, M.A. Haque, T.R. Sarker, and **M. A. Momin**. Present status of farm power and machinery usage in Bangladesh, *J. Agril. Mach. Bioresour. Eng.* Vol 7(1).pp 47-54, 2016.
- 20 M.R. Ali, B. Das, M.H. Islam, **M. A. Momin** and K. Osamu. Solar energy based lighting and ventilation system for rural poultry house in Bangladesh, *J. Agril. Mach. Bioresour. Eng.* Vol 7(1). pp. 22-28, 2016.

-----**2015 and earlier**-----

- 19 **Md Abdul Momin**. Fluorescence imaging for defect inspection of citrus fruits and identification of fluorescence substances, *J. of the Japanese Society of Agricultural Machinery and Food Engineers*, Vol. 77, No. 6, pp. 393-95, November, 2015.
- 18 M. M. Rahman, **M. A. Momin**, B. C. Nath, M. A. Rahman and M. A. Rabbani, Field performance evaluation of BRRI power chopper machine, *J. of Agricultural Engineering. The inst. of Engineers, Bangladesh* Vol. 41/AE, No. 2, pp. 61-69, December, 2014.
- 17 Md Hamidul Islam, Md Mosharraf Hossain, and **Md Abdul Momin**, Development of Briquette from Coir Dust and Rice Husk Blend: An Alternative Energy Source, *Int. J. of Renewable Energy Development (IJRED)*, Vol. 3, No. 2, pp. 119-123, June, 2014.
- 16 **M. A. Momin**, M. S. Sultana, M. H. Islam, T. Shiigi, N. Kondo, Fluorescent UV imaging system for inspection of defected citrus fruits, *J. of Agricultural Engineering. The institution of Engineers, Bangladesh* Vol. 41/AE, No. 1, pp. 65-70, June, 2014.
- 15 M. Alam, D. Islam, **M. A. Momin**, T. R. Sarker, Present status of drum seeder use in Bangladesh, *J. of Agricultural Engineering. The institution of Engineers, Bangladesh* Vol. 41/AE, No. 1, pp. 23-28, June, 2014.
- 14 **Md. Abdul MOMIN**, Makoto KURAMOTO, Naoshi KONDO, Kyohei IDO, Yuichi OGAWA, Tomoo SHIIGI, and Usman AHMAD. Identification of UV-fluorescence components for detecting peel defects of lemon and yuzu using machine vision, *J. of Eng. in Agr. Env. & Food*, Vol. 6, No. 4, pp. 165-171, October, 2013.
- 13 Subo Tian, M. A. Ashraf, N. Kondo, T. Shiigi, and **M. A. Momin**, Optimization of machine vision for tomato grafting robot, *Sensor letters*, Vol. 11(6/7), pp.1190–94, June/July, 2013.
- 12 **Md. Abdul MOMIN**, Naoshi KONDO, Yuichi OGAWA, Kyohei IDO, and Kazunori NINOMIYA, Patterns of fluorescence associated with citrus peel defects, *J. of Eng. in Agr. Env. & Food*, Vol. 6, No. 2, pp. 60-66, April, 2013.
- 11 **Md. Abdul MOMIN**, Naoshi KONDO, Makoto KURAMOTO, Yuichi OGAWA, Kazuya YAMAMOTO and Tomoo SHIIGI, Investigation of excitation wavelength for fluorescence emission of citrus peels based on UV-VIS spectra, *J. of Eng. in Agr. Env. & Food*, Vol. 5, No. 4, pp. 126-132, October, 2012.
- 10 Yuichi OGAWA, Momin Md. ABDUL, Makoto KURAMOTO, Yasushi KOHNO, Tomoo SHIIGI, Kazuya YAMAMOTO, and Naoshi KONDO, Detection of rotten citrus fruit using fluorescent images, *J. Laser Engg.*, Vol. 39, N0. 4 pp. 255-261, 2011.
- 9 M. M. Alam, and **M. A. Momin**. Performance of existing maize shellers in Bangladesh, *Progress. Agric.*, Vol. 20, No. 1 & 2, pp. 207-220, Jan.-Dec., 2009.
- 8 M. M. Alam, **M. A. Momin**, AA Begum and MM Haque. Selection of spike spacing and cylinder speed of closed drum thresher for wheat. *Intl. J. BioRes* 5(3):5-11, 2008.

- 7 S. Sultana, **M.A. Momin** and Abul.Khair. Design and Fabrication of a Low Cost Water Lifting Device. Bangladesh J. Prog. Sci. & Tech. 6(2): 335-340; 2008.
- 6 M. Alam, S. Sarker and **M.A. Momin**. Profitability of rice production using a drum seeder. J. Bangladesh Agril. Univ. 5(1):135-144, 2007.
- 5 **M.A. Momin**, M.R.I.Sarker and M.M. Hossain. Field performance of a tractor operated semi-automatic potato planter. J. Bangladesh Agril. Univ. 4(2):391-399, 2006.
- 4 M.M.Alam, **M.A. Momin** and S.Sultana. Selection of spike spacing and cylinder speed of closed drum thresher. J. of Agricultural Engineering. The institution of Engineers, Bangladesh, Vol. 32/AE, pp. 37-44, 2006.
- 3 M.Alam, **M. A. Momin** and E.Kabir. Energy and cost requirement to produce rice husk briquette using different screw and heating system. Progress. Agric.17 (2): 213-220, 2006.
- 2 Ehsanul Kabir and **Md Abdul Momin**. Temperature Sensitivity of Microstrip Patch Antenna. J. Agric. Mach. Bioresour. Eng. 4 (1&2): 13-16, 2006.
- 1 M.A.Zaman, **M.A.Momin** and M.R. Ali, 2006. Commercial Processing of Roasted Rice (muri) in Bangladesh. Bangladesh J. Agril. Sci. 33(2): 167-174, 2006.

### Conference papers

- 6 Saha, C., .....**Momin, A.** 2023. BAU-STR Dryer for Drying Maize for Underserved Community in Bangladesh. American Society of Agricultural and Biological Engineers AIM presentation. <https://elibrary.asabe.org/abstract.asp?aid=54121>
- 5 **Momin Md Abdul**, Sarvio Valente, Tony Grift. 2021. Feasibility study on application of low-cost GPS for precision agriculture, The 79<sup>th</sup> Japanese Society of Agricultural Machinery (JSAM) annual meeting, Paper Number: 2-17.
- 4 Nan Li, Tony E. Grift, Ting Yuan, Chunlong Zhang, **Md. Abdul Momin**, and Wei Li. 2016. Image processing for crop/weed discrimination in fields with high weed pressure, An ASABE Meeting Presentation, DOI: 10.13031/aim.20162460475, Paper Number: 162460475.
- 3 **Md. Abdul MOMIN**, Naoshi KONDO, .....Kazunori NINOMIYA. 2011. "Evaluation of the reasons why freshly appearing citrus peel fluorescence during automatic inspection by fluorescent imaging technique". Proc. Of SPIE Vol. 8000 80000C1-6. (*Peer reviewed*)
- 2 **Md. Abdul MOMIN**, Naoshi KONDO, .....Tomoo SHIIGI. 2011. "Study on excitation and fluorescence spectrums of Japanese citrus to construct machine vision systems for acquiring fluorescent images". Proc. Of SPIE Vol. 8027 80270R1-8. (*Peer reviewed*)
- 1 **Md. Abdul MOMIN**, Naoshi KONDO, ..... Kazunori NINOMIYA. 2010. "Machine Vision System for Detecting Fluorescent Area of Citrus Using Fluorescence Image," Proc. Of IFAC-PapersOnLine. Vol. 43 Issue 26, pp. 241-244. (*Peer reviewed*)

### Posters

- 8 **Momin, A.**, Martins C.G, Valente DSM, Queiroz DM. 2023. "Evaluation of leaf-miner fly attacks on tomato plants using deep neural network," ASABE Annual International Meeting, Omaha, NE, United States. (July 9-12, 2023).
- 7 A Dien, L Anyoke-Bempah, **A Momin**, IR Donis-Gonzalez, K Kornbluth. "Evaluation of the Performance of an Industrial-Scale Desiccant-Based Drying System for Agricultural Commodities" American Society for Horticultural Science (ASHS) Annual Conference, August 10-13, 2020.
- 6 **M. A. Momin**, M. A. Alam, C. Saha and M. M. Alam, "Drying bin size and paddy variety effects on STR dryer performance" ASABE Annual International Meeting, Orlando, USA, July 17 – 20, 2016.
- 5 **M. A. Momin**, "Machine Vision: A New Opportunity for Advancing Quality of Agricultural Produce in Bangladesh" The First Int. Congress on Postharvest Loss Prevention, Rome, Italy, October 4-7, 2015.
- 4 C. K. Saha, .... **M. A. Momin**. "Paddy Drying Technologies for Small Farmers and Traders in Bangladesh" The First Int. Congress on Postharvest Loss Prevention, Rome, **Italy**, October 4-7, 2015.
- 3 **M. A. Momin**, M. T. Rahman, M. S. Sultana, and C. Igathinathane. "Computer vision system for grading mangos in Bangladesh" ASABE Annual Int. Meeting, New Orleans, LA, USA, July 26 – 29, 2015.

- 2 **M. A. Momin**, N. Kondo, T. Shiigi, and M. Yamakawa. 2012. “Fluorescence imaging based machine vision system to detect citrus defects”. International Symposium on Mechanical Harvesting & Handling Systems of Fruits and Nuts. CREC, University of Florida, Lake Alfred, FL (USA).
- 1 **M. A. Momin**, M. S. Sultana, & M. H. Islam. 2011. “Present Status and Future of Agricultural Mechanization in Bangladesh”. Agricultural Technologies and Cross-Cultural Exchange, an event CIGR International Symposium, Tokyo, Japan.

**Web/Outreach Publications: Research news and reports**

- 9 “To Maximize Sugarcane Harvesting, Use the Right Blade” published by Phys.org, 10 April 2018, <https://phys.org/news/2018-01-maximize-sugarcane-harvesting-blade.html>
- 8 “University researchers maximize sugarcane harvest with new blade” published by The Daily Illini, January, 2018. <https://dailyillini.com/uncategorized/2018/01/20/university-researchers-maximize-sugarcane-harvest-new-blade/>
- 7 “To maximize sugarcane harvesting, use the right blade” published by ACES College NEWS, University of Illinois, January 17, 2018. <http://news.aces.illinois.edu/news/maximize-sugarcane-harvesting-use-right-blade>
- 6 “Monitoring the quality of soybeans as they are harvested” published by Engineers Australia, October 5, 2017. <https://www.engineersaustralia.org.au/News/monitoring-quality-soybeans-they-are-harvested>
- 5 “New machine evaluates soybean at harvest for quality” published by ACES College NEWS, University of Illinois, October 3, 2017. <https://news.aces.illinois.edu/news/new-machine-evaluates-soybean-harvest-quality>
- 4 “New machine evaluates soybeans at harvest” published by Morning AgClips, October, 2017. <https://www.morningagclips.com/new-machine-evaluates-soybeans-at-harvest/>
- 3 “New method analyzes corn kernel characteristics” published by ACES College NEWS, University of Illinois, November, 2017. <https://news.aces.illinois.edu/news/new-method-analyzes-corn-kernel-characteristics>
- 2 “Researchers develop breakthrough for analyzing corn kernels at Illinois” published by The Daily Illini, November, 2017. <https://dailyillini.com/news/2017/11/19/researchers-develop-breakthrough-analyzing-corn-kernels-illinois/>
- 1 “Researcher aims to improve post-harvest processing in Bangladesh beginning with mangos” published by ACES College NEWS University of Illinois, December, 2017. <http://news.aces.illinois.edu/news/researcher-aims-improve-post-harvest-processing-bangladesh-beginning-mangos>

**Blogs**

- 2 “Working with Louisiana sugarcane farmers” published by ACES College NEWS University of Illinois, October, 2017. <https://aces.illinois.edu/blog/working-louisiana-sugarcane-farmers>
- 1 “Biosensing for advancing quality of agricultural produce in Bangladesh” published by ADM Institute, University of Illinois, December, 2015. <http://publish.illinois.edu/phlinstitute/2015/12/22/biosensing-momin/>

**List of Presentations at Scholarly Meetings/Conferences**

26. **Momin, A.** Martins Crispi, G. Valente DSM, and Queiroz DM. “Evaluation of leaf-miner fly attacks on tomato plants using deep neural network” ASABE Annual International Meeting, **Omaha, NE, USA**, July 09 – 12, 2023.
25. Rahman, T. and **Momin, M.A.** “Disease detection of tomato (*Solanum lycopersicum*) plant leaf using machine learning algorithms” ASABE Annual International Meeting, **Houston, TX, USA**, July 17 – 20, 2022.
24. **Momin Md Abdul**, Sarvio Valente, Tony Grift. Feasibility study on application of low-cost GPS for precision agriculture, The 79<sup>th</sup> Japanese Society of Agricultural Machinery (JSAM) annual meeting, Paper Number: 2-17. 14-15 September 2021.

23. A Dien, L Anyoke-Bempah, **A Momin**, IR Donis-Gonzalez, K Kornbluth. Evaluation of the Performance of an Industrial-Scale Desiccant-Based Drying System for Agricultural Commodities, The 117<sup>th</sup> American Society for Horticultural Science (ASHS) Annual Conference, August 10-13, 2020.
22. **Momin Md. Abdul**, Constantino Valero, and Irwin Donis-Gonzalez, “Performance evaluation of two commercially available non-invasive NIR produce quality spectrometers” ASABE Annual International Meeting, Boston, **MA, USA**, July 08 – 10, 2019.
21. **Momin Md. Abdul**, and Irwin Donis-Gonzalez, “Energy efficiency of desiccant beads-based systems to dehydrate agricultural produce” ASABE Annual International Meeting, Boston, **MA, USA**, July 08 – 10, 2019.
20. **Momin Md. Abdul**, Tony Grift and Alan Hansen, “Harvesting front analysis for sugarcane yield mapping using GPS” ASABE Annual International Meeting, Detroit, **MI, USA**, July 29 – August 01, 2018.
19. **Momin Md. Abdul**, Tony Grift and Alan Hansen, “Lodged sugarcane assessment using digital image processing” ASABE Annual International Meeting, Detroit, **MI, USA**, July 29 – August 01, 2018.
18. **Momin Md. Abdul**, Paul Wempe, Tony Grift and Alan Hansen, “Impact of base cutter blade design on sugarcane cut quality” ASABE Annual International Meeting, Spokane, **WA, USA**, July 17 – 20, 2017.
17. **Momin Md. Abdul**, Md. Ashrafal Alam, Chayan Saha and Md Monjurul Alam, “Drying bin size and paddy variety effects on STR dryer performance” ASABE Annual International Meeting, Orlando, **FL, USA**, July 17 – 20, 2016.
16. **Momin Md. Abdul**, “UV-fluorescence components of lemon and yuzu citrus for detecting peel defects” the SPIRITS workshop, Bali, **Indonesia**, November 17-19, 2015.
15. **Momin Md. Abdul**, “Machine Vision: A New Opportunity for Advancing Quality of Agricultural Produce in Bangladesh” The First International Congress on Postharvest Loss Prevention, Rome, **Italy**, October 4-7, 2015.
14. **Momin Md. Abdul**, M. T. Rahman, M. S. Sultana, and C. Igathinathane. “Computer vision system for grading mangos in Bangladesh” ASABE Annual International Meeting, New Orleans, Louisiana, **USA**, July 26 – 29, 2015.
13. Pothula, Anand K., C. Igathinathane, **Momin, Md. Abdul**, W. Rick, H. Jonathan. “Effect of water temperature on milled industrial beet juice multiple extraction” ASABE Annual International Meeting, New Orleans, Louisiana, **USA**, July 26 – 29, 2015.
12. **Momin Md. Abdul**, C. Igathinathane, and Jiacheng Shen. “Economic analysis of small scale industries for affected woody biomass” Bio-Industry Summit, BioEPIC, NDSU, **USA**, May 28, 2015.
11. Pothula, Anand K., C. Igathinathane, W. Rick and **Momin, Md. Abdul**. “Hot water and thin juice for industrial beets juice extraction” Bio-Industry Summit, BioEPIC, NDSU, **USA**, May 28, 2015.
10. **Momin Md. Abdul**, C. Igathinathane, and Jiacheng Shen. “Economic analysis of flood affected woody biomass utilization” ASABE North Central Intersectional Conference, Fargo, North Dakota, **USA**, April 10 -11, 2015.
9. **Momin Md. Abdul**. “Machine Vision System: A New Approach for Processing Agricultural Products in Bangladesh”. Workshop on Information Technologies in Sustainable Agriculture for 9 Billion People’s Food Production, Zhejiang University, **China**, March 12-13, 2014.
8. **Momin Md. Abdul**, Naoshi Kondo and Munenori Miyamoto. “Selection of devices and lighting based machine vision system for soybean sorting”. Kansai branch of Japanese Society of Agricultural Machinery (JSAM), No. 128, Tottori University, **Japan**, August 11-12, 2012.
7. **Momin Md. Abdul**, Naoshi Kondo, Tomoo Shiigi, and Momoyo Yamakawa. “Fluorescence imaging based machine vision system to detect citrus defects”. International Symposium on Mechanical Harvesting & Handling Systems of Fruits and Nuts. Citrus Research & Education Center, Univ. of Florida, Lake Alfred, **FL, USA**, April 2-4, 2012.
6. **Momin Md. Abdul**, Naoshi Kondo and Makoto Kuramoto. “Classification of Citrus Fruits Based on Fluorescence Intensity Profiles”. Kansai branch of Japanese Society of Agricultural Machinery (JSAM), No. 126, Wakayama, **Japan**, September 15-16, 2011.
5. **Momin Md. Abdul**, Sabrina Sultana, and Hamidul Islam. 2011. “Present Status and Future of Agricultural Mechanization in Bangladesh”. Agricultural Technologies & Cross-Cultural Exchange, an event CIGR International Symposium, **Japan**, September 19-23 2011.

4. **Momin Md. Abdul**, Naoshi Kondo, ....Ninomiya. 2011. "Evaluation of the reasons why freshly appearing citrus peel fluorescence during automatic inspection by fluorescent imaging technique". QCAV 2011: International Conference, **France**, June 28-30, 2011.
3. **Momin Md. Abdul**, Naoshi Kondo, .... Shiigi. "Study on excitation and fluorescence spectrums of Japanese citrus to construct machine vision systems for acquiring fluorescent images". DSS 2011: SPIE Defense and Security Sensing International Conference, Orlando, FL, **USA**, April 25-29, 2011.
2. **Momin Md. Abdul**, Naoshi Kondo, ..... Ninomiya. "Machine Vision System for Detecting Fluorescent Area of Citrus Using Fluorescence Image," AGRICONTROL-2010: The 3<sup>rd</sup> IFAC Int. Conference, **Japan**, December 6-8, 2010.
1. **Momin Md. Abdul**, Naoshi Kondo,..... "Study on excitation and fluorescence spectrums of various citrus fruits". Kansai branch of Japanese Society of Agricultural Machinery (JSAM), No. 124, Okayama University, **Japan**, August 30-31, 2010.

### **Professional/Scholarly activities**

#### **Professional Services**

- Member of various committees (e.g., doctoral advisory, facilities & technology, student financial aid, campus space allocation and utilization, director search) at Tennessee Tech University.
- Editorial Review Board Member, Journal of Tropical Agricultural Engineering and Biosystems, (September 1, 2023 - Present).
- Guest Editors, Frontiers in Agronomy Journal. (September 1, 2023 - December 31, 2024).
- Member, USDA-NIFA peer review panel, a competitive grant review process (e.g., A1521 Agricultural Engineering: 2022 and 2023, SBIR 8.13 Phase-I: 2022 and 2023)

#### **Professional Memberships**

- Fellow (M/22314), Inst. of Engineers' Bangladesh
- American Society of Agricultural and Biological Engineers (ASABE) member ID # 1051309
- The Japanese Society of Agricultural Machinery (JSAM) member ID # 3001

#### **Social media platforms**

- [Google Scholar](#) [ResearchGate](#) [LinkedIn](#)

#### **Awards and Scholarship**

- **JSAM Young Researcher's Academic Encouragement Award (15 September, 2015):** Granted by Japanese Society of Agricultural Machinery (JSAM), for the achievement of research on "Fluorescence Imaging for Defect Inspection of Citrus Fruits and Identification of Fluorescence Substances".
- **Elsevier Reviewer Recognition Award (February, 2015):** Awarded by Editors of Computers and Electronics in Agriculture, Elsevier for the outstanding contribution in reviewing.
- **Young Researcher's Academic Encouragement Award (01 July, 2013):** Granted by Kansai Branch, Japanese Society of Agricultural Machinery (JSAM), for the outstanding research entitled "Identification of UV-fluorescence components for detecting peel defects of lemon and yuzu using machine vision".
- **University Gold Medal Award (08 March, 2011):** Awarded the University Gold Medal for securing 75.68% marks in B.Sc. Agri. Engg. Examination of the year 2002.
- **Monbukagakusho Scholarship (01 October, 2009 to 31 March, 2013):** Provided by Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan for pursuing Ph.D. study in Kyoto University.
- **Md. Nurul Hossain Meritorious Award (25 June, 2009):** Awarded "Md. Nurul Hossain Gold Medal" for meritorious performance in obtaining Graduation Degree among all Faculties in year 2002.
- **Ramapati Nath Memorial Award (25 June, 2009):** Awarded Cash Money for securing highest cumulative marks in Part I, II and III Final Examinations in the faculty of Agricultural Engineering and Technology in the year 2001.
- **Prime Minister Gold Medal Award (30 August, 2005):** Awarded Prime Minister Gold Medal Award for excellent result in B.Sc. Agri. Engg. of the faculty of Agricultural Engineering and Technology.



**Experiences as Scientific Paper Reviewer**

<b><u>Journal</u></b>	<b><u>Publishers</u></b>	<b><u>No. Paper reviewed</u></b>
• Engineering in Ag. Env. & Food	Elsevier	2
• Biosystems Engineering	Elsevier	5
• Applied Engineering in Agriculture	ASABE	4
• Bangladesh Agricultural University	BAU	5
• Transactions of ASABE	ASABE	2
• Computer & Electronics in Agriculture	Elsevier	6
• Agricultural Engineering	IEB, Bangladesh	3

**Training Courses Attended**

- Purdue Prospective Faculty Workshop from February 26-28, 2017 organized by Purdue University.
- Scientific Report Writing from May 20-25, 2006 organized by Bangladesh Agricultural University
- Project Cycle Management from April 30- May 04, 2006 organized by Bangladesh Agricultural University
- Teaching Methods and Techniques from January 22- February 04, 2006 organized by Bangladesh Agricultural University

**Academic Referees**

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