

## Publications

| Publication Type | Publication Title                                                                                                                                                                                                                                                                                                                                               | Published Year |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Journal          | Md. Ferdous Rahman, Md. Al Ijazul Islam, Mithun Chowdhury, Lamia Ben Farhat, Safa Ezzine, A.T.M. Saiful Islam, “Efficiency improvement of CsSnI <sub>3</sub> based heterojunction solar cells with P3HT HTL: A numerical simulation approach”, Materials Science & Engineering B, Vol. 307, pp. 117524.                                                         | 2024           |
| Journal          | Dipankar Kumar, A.T.M. Saiful Islam, Gour Chandra Paul, Md. Nuruzzaman, “Exploring dynamic behaviors of diverse electrical soliton pulses in lossy nonlinear electrical transmission lines: Insights from analytical method and linear stability analysis technique”, European Physical Journal Plus, Vol. 139, pp. 428.                                        | 2024           |
| Journal          | Basra Sultana, A.T.M. Saiful Islam, Md. Dulal Haque, Abdul Kuddus, “Cu <sub>2</sub> O-Enhanced Back Surface Field Empowers Selenium-Based TiO <sub>2</sub> /Sb <sub>2</sub> Se <sub>3</sub> Thin Film Solar Cells to Achieve Efficiency over 32%”, Applied Solar Energy, Vol. 59(6), pp. 836 – 850.                                                             | 2024           |
| Journal          | M. A. Khan, A.T.M. Saiful Islam, A. A. Mamun, T. Karim, “Green Auto Mobile Vehicle Design”, International Journal of Electrical Engineering and Applied Sciences, Vol. 6(2), pp. 6169.                                                                                                                                                                          | 2023           |
| Journal          | Jubair Al Mahmud, Md. Ferdous Rahman, Abdul Kuddus, Md. Hasan Ali, A.T.M. Saiful Islam, Md. Dulal Haque, Sheikh Rashel Al Ahmed, Muhammad Mushtaq, Abu Bakar Md. Ismail, “Design and Analysis of SnS <sub>2</sub> /WS <sub>2</sub> /V <sub>2</sub> O <sub>5</sub> Double-Heterojunction Toward High Performance Photovoltaics”, Energy Advances.                | 2023           |
| Journal          | Basra Sultana, A.T.M. Saiful Islam, Md. Dulal Haque, Abdul Kuddus, Md. Hasan Ali, Md. Ferdous Rahman, “Numerical study of MoSe <sub>2</sub> -based dual-heterojunction with In <sub>2</sub> Te <sub>3</sub> BSF layer toward high-efficiency photovoltaics”, Physica Scripta. Vol. 98(9), pp. 095935.                                                           | 2023           |
| Journal          | Md Hasan Ali, A.T.M. Saiful Islam, Md Dulal Haque, Md Ferdous Rahman, M Khalid Hossain, Nasrin Sultana, AZM Touhidul Islam, “Numerical analysis of FeS <sub>2</sub> based solar cell with PEDOT: PSS hole transport layer”, Materials Today Communications, Vol. 34, pp. 105387.                                                                                | 3023           |
| Journal          | Jaker Hossain, A.T.M. Saiful Islam, Koji Kasahara, Ryo Ishikawa, Keiji Ueno, Hajime Shirai, “State-of-the-Art of Solution-Processed Crystalline Silicon/Organic Heterojunction Solar Cells: Challenges and Future”, Challenges and Advances in Computational Chemistry and Physics, 32, Springer.                                                               | 2021           |
| Journal          | Dipankar Kumar, Gour Chandra Paul, Japatosh Mondal, A.T.M. Saiful Islam, “On the propagation of alphabetic-shaped solitons to the (2 + 1)-dimensional fractional electrical transmission line model with wave obliqueness”, Results in Physics, Vol. 19, pp-103640.                                                                                             | 2020           |
| Journal          | Karim Md Enamul, A.T.M. Saiful Islam, Yuki Nasuno, Abdul Kuddus, Ryo Ishikawa, and Hajime Shirai, “Solution-processed TiO <sub>2</sub> as a hole blocking layer in PEDOT:PSS/n-Si heterojunction solar cells”, EPJ Photovoltaics, Vol. 11:7.                                                                                                                    | 2020           |
| Journal          | A.T.M. Saiful Islam, Md. Enamul Karim, Arifuzzaman Rajib, Yuki Nasuno, Tomofumi Ukai, Shunji Kurosu, Masahide Tokuda, Yasuhiko Fujii, Yoshikata Nakajima, Tatsuro Hanajiri, and Hajime Shirai, "Chemical mist deposition of organic for efficient front- and back-PEDOT:PSS/crystalline Si heterojunction solar cells", Appl. Phys. Lett., Vol. 114, pp-193901. | 2019           |
| Conference       | Yuki Nasuno, Ryo Ishikawa, Koki Kawamura, A.T.M. Saiful Islam, Yoko Wasai, Hajime Shirai, “Spectroscopic Ellipsometry Study of c-Si/perovskite Tandem Solar Cells”, 8th International Conference on Spectroscopic Ellipsometry, Barcelona, Spain.                                                                                                               | 2019           |
| Conference       | Md Enamul Karim, Tomofumi Ukai, Daisuke Harada, A.T.M. Saiful Islam, Shunji Kurosu, Yoshikata Nakajima, Yasuhiko Fujii, Masahide Tokuda, Tatsuro Hanajiri, Ryo Ishikawa, Keiji Ueno, Hajime Shirai, “PEDOT: PSS/n-Si                                                                                                                                            | 2019           |

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|            | heterojunction solar cells with ALD-Al <sub>2</sub> O <sub>3</sub> /n-Si field effect inversion layer”, JSAP Annual Meetings Extended Abstracts The 66th JSAP Spring Meeting, pp. 3384.                                                                                                                                                                          |      |
| Conference | A.T.M. Saiful Islam, Yuki Nasuno, Daisuke Harada, Ryo Ishikawa, Keiji UENO, Hajime Shirai, “Study on interface recombination characteristics of crystalline-silicon/organic heterojunction solar cells”, JSAP Annual Meetings Extended Abstracts The 66th JSAP Spring Meeting.                                                                                   | 2019 |
| Conference | A.T.M. Saiful Islam, Y. Nasuno, R. Ishikawa, Hajime Shirai, “Junction property and carrier transport in PEDOT: PSS/n-Si heterojunction solar cells”, 6th Korea-Japan Joint Symposium on Advanced Solar Cells, Nikko, Japan.                                                                                                                                      | 2019 |
| Conference | Karim Md Enamul, T. Ukai, Daisuke Harada, A.T.M. Saiful Islam, S. kurosu, Y. Nakajima, Y. Fujii, M. Tokuda, T. Hanajiri, R. Ishikawa, Keiji Ueno, Hajime Shirai, “PEDOT: PSS/n-Si heterojunction solar cells with ALD-Al <sub>2</sub> O <sub>3</sub> /n-Si field effect inversion layer”, 6th Korea-Japan Joint Symposium on Advanced Solar Cells, Nikko, Japan. | 2019 |
| Journal    | A.T.M. Saiful Islam, Ryo Ishikawa, Hajime Shirai, "Solution-Processed Crystalline Silicon Heterojunction Solar Cells", Micro and Nano Technologies (Elsevier), 97-117.                                                                                                                                                                                           | 2019 |
| Conference | A.T.M. Saiful Islam, K Kawamura, Ryo Ishikawa, Hajime Shirai, “Optical Anisotropy and Photovoltaic Performance of N-Si/Organic Heterojunction HOT Solar Cells”, Optics for Solar Energy, pp. OM2D. 2.                                                                                                                                                            | 2018 |
| Conference | A.T.M. Saiful Islam, R Ishikawa, K Ueno, H Shirai, K Omote, K Yokoo, “Photovoltaic performance of PEDOT: PSS/c-Si junction solar cells by adding ferroelectric polymer thin-layer”, JSAP Annual Meetings Extended Abstracts The 79th JSAP Autumn Meeting, pp. 3535-3535.                                                                                         | 2018 |
| Conference | A.T.M. Saiful Islam, Koji Kasahara, Takanori Kuroki, Ryo Ishikawa, Hajime Shirai, JSAP Annual Meetings Extended Abstracts The 65th JSAP Spring Meeting, “CARRIER TRANSPORT IN PEDOT: PSS/c-Si HETEROJUNCTION SOLAR CELLS”, pp. 3839-3839.                                                                                                                        | 2018 |
| Conference | Koji Kasahara, A.T.M. Saiful Islam, Jaker Hossain, Daisuke Harada, Koki Kawamura, Ryo Ishikawa, Hajime Shirai, “Efficient hole blocking capability of Mg(OH) <sub>2</sub> for n-Si/PEDOT:PSS junction solar cells”, 78th JSAP Autumn Meeting.                                                                                                                    | 2017 |
| Journal    | Jaker Hossain, Koji Kasahara, Daisuke Harada, A.T.M. Saiful Islam, Ryo Ishikawa, Keiji Ueno, Tatsuro Hanajiri, Yoshikata Nakajima, Yasuhiko Fujii, Masahide Tokuda, and Hajime Shirai, "Barium hydroxide hole blocking layer for front- and back-organic/crystalline Si heterojunction solar cells", Journal of Applied Physics (JAP), Vol. 122(5).              | 2017 |
| Conference | Takanori Kuroki, Jiale Dou, Ryoma Ishikawa, Jaker Hossain, A.T.M. Saiful Islam, Tatsuro Hanajiri, Yoshikata Nakajima, Yasuhiko Fujii, Masahide Tokuda, Ryo Ishikawa, Hajime Shirai, “Chemical mist deposition of PEDOT:PSS and its application to c-Si/PEDOT:PSS solar cells”, 64th JASP Spring Meeting.                                                         | 2017 |
| Conference | Abu Bakar Md Ismail, Moha Feroz Hossen, A.T.M. Saiful Islam, Porous silicon: A material of choice in solar energy harvesting, International Conference on Advances in Electrical, Electronic and Systems Engineering (ICAEES), pp. 400-404.                                                                                                                      | 2016 |
| Conference | A.T.M. Saiful Islam, MD. Enamul Karim, Arifuzzaman Rajib, Abu Bakar Md. Ismail, “Silicon Nanocrystals based Schottky Junction Solar Cell Fabrication and Characterization”, International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering IC4ME2.                                                                          | 2016 |
| Conference | Arifuzzaman Rajib, A.T.M. Saiful Islam, Atowar Rahman, Abu Bakar Md Ismail, “Fabrication and Characterization of $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> Homo-junction Photocathode for Efficient Solar Water Splitting”, International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering IC4ME2.                           | 2016 |

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| Journal    | Arifuzzaman Rajib, A.T.M. Saiful Islam, Md. Razu Ahmed, Md. Tariqur Rahman, Md. Atowar Rahman, Abu Bakar Md. Ismail, "Detection of Chromium (Cr) using X-ray Fluorescence Technique and Investigation of Cr Propagation from Poultry Feeds to Egg and Chicken Flesh", American Journal of Engineering Research (AJER), Vol. 5(7), pp. 243-247. | 2016 |
| Journal    | Md. Omar Faruka, Md. Abdullah Al Asad, A.T.M. Saiful Islam, Md. Saiful Islam, "Analysis of India-Nepal Border Region Earthquake Wave for Studying the Layering Information of the Crust", ASRJETS, Vol. 15, pp. 290-302.                                                                                                                       | 2016 |
| Conference | A.T.M. Saiful Islam, Arifuzzaman Rajib, MD Enamul Karim, Abu Bakar Md Ismail, "Silicon Nanocrystals based Schottky Junction Solar Cell Fabrication and Characterization", International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering, IC4ME2.                                                         | 2016 |
| Journal    | A.T.M. Saiful Islam, Md Enamul Karim, Arifuzzaman Rajib, Md Omar, "Fabrication and Characterization of Silicon Nanocrystals Based Low-Cost Schottky Junction Photovoltaic for Harvesting Solar Energy", IOSR Journal of Applied Physics, Vol. 8(3), pp. 72-79.                                                                                 | 2016 |
| Journal    | A.T.M. Saiful Islam, Mushtaq Ahmed Sobhan and Abu Bakar Md. Ismail, "Performance enhancement of bulk heterojunction hybrid solar cell using macroporous silicon", RUJSE, Vol. 43, pp. 11-20.                                                                                                                                                   | 2015 |
| Conference | A.T.M Saiful Islam, Abu Bakar Md Ismail, "The effect of introducing Macroporous Silicon as the Cathode of Bulk Heterojunction Hybrid Solar Cell", International Conference on Materials, Electronics & Information Engineering (ICMEIE).                                                                                                       | 2015 |
| Conference | Atul Rahman, Mr Khalid, A.T.M. Saiful Islam, Mahmudur Rahman, "Optimized hardware architecture for implementing IEEE 754 standard double precision floating point adder/subtractor", 17th International Conference on Computer and Information Technology (ICCIT), pp. 147-152.                                                                | 2014 |
| Conference | A.T.M. Saiful Islam, Abu Bakar Md Ismail, "Fabrication of uniform-macroporous silicon and its possible application in hybrid solar cell", 2nd International Conference on Advances in Electrical Engineering (ICAEE), pp. 401-404.                                                                                                             | 2013 |