Curriculum Vitae

MAKLUMAT ASAS

DR. KAZI SAJEDUR RAHMAN

PENSYARAH UNIVERSITI
INSTITUT PENYELIDIKAN TENAGA SURIA (SERI)
No. telefon : 0182473171
No.rasmi: UKM : 03 1234 5678

BIOGRAFI /BIOGRAPHY

Dr. Kazi Sajedur Rahman is a Research Fellow/Senior Lecturer at the Solar Energy Research Institute (SERI) of Universiti Kebangsaan Malaysia (@The National University of Malaysia). Previously, he worked as a Postdoctoral Researcher at the Institute of Sustainable Energy of Universiti Tenaga Nasional (@The National Energy University) of Malaysia for almost 2 years. He achieved Doctor of Philosophy (PhD) from the Department of Electrical, Electronic & Systems Engineering of Universiti Kebangsaan Malaysia (@The National University of Malaysia) in 2018. He obtained Master of Science (MSc) from Solar Energy Research Institute (SERI) of Universiti Kebangsaan Malaysia (@The National University of Malaysia) in 2014. He completed his Bachelor of Science (BSc) in 2011 in Electrical and Electronic Engineering (EEE) from Chittagong University of Engineering and Technology (CUET), Bangladesh. He has been working on thin film solar cell science and technology since 2012. His primary research focus is on exploring low-cost and high efficiency CdTe thin film solar cells. Dr. Rahman has authored several peer-reviewed articles and a few book chapters related to the thin film solar cells. His research interests include thin film solar cells (CdTe, CZTS, CIGS), semiconductor physics and devices, solar photovoltaic applications, etc.

KELAYAKAN AKADEMIK / ACADEMIC QUALIFICATION
(BIDANG PENGAJIAN),(PERINGKAT),(INSTITUSI),(TAHUN)

Doktor Falsafah , UKM , 2018

Sarjana Sains , UKM , 2014

Sarjana Muda , Chittagong University of Engineering & Technology , 2011

KEPAKARAN / EXPERTISE

PURE AND APPLIED SCIENCES - MATERIALS SCIENCE (Cadmium Telluride (CdTe) Thin Film Deposition And Characterization, Thin Film Photovoltaic Device Fabrication and Performance Assessment, Numerical Simulation of PV Devices, Semiconductor Physics and Devices; Solar Cells.)

TECHNOLOGY AND ENGINEERING - ENERGY (Thin Film Solar Cell Science And Technology)

PENERBITAN TERKINI / LATEST PUBLICATION

Penerbitan Berimpak Tinggi

M.n. Harif, K.s. Rahman, C. Doroody, H.n. Rosly, M. Isah, M.a. Alghoul, H. Misran, N. Amin. (2022). Microstructural Evolution Of Oxygen Incorporated Cdte Thin Films Deposited By Close-spaced Sublimation. - *Materials Letters.* 1-5.

Camellia Doroody, Kazi Sajedur Rahman, Tiong Sieh Kiong, Nowshad Amin. (2022). Optoelectrical Impact Of Alternative Window Layer Composition In Cdte Thin Film Solar Cells Performance. - *Solar Energy.* 523-530.

Rajib Baran Roy, Md. Rokonuzzaman, Nowshad Amin, Mahmuda Khatun Mishu, Sanath Alahakoon, Saifur Rahman, Nadarajah Mithulananthan, Kazi Sajedur Rahman, Mohammad Shakeri, Jagadeesh Pasupuleti. (2021). A Comparative Performance Analysis Of Ann Algorithms For Mppt Energy Harvesting In Solar Pv System. - *Ieee Access.* 10213-10215.

M. Isah, K.s. Rahman, C. Doroody, M.n. Harif, H.n. Rosly, K. Sopian, S.k. Tiong, N. Amin. (2021). Design Optimization Of Cdte/si Tandem Solar Cell Using Different Transparent Conducting Oxides As Interconnecting Layers. - *Journal Of Alloys And Compounds.* 1-6.

C. Doroody, K.s. Rahman, H.n. Rosly, M.n. Harif, K. Sopian, S.f. Abdullah, N. Amin. (2021). A Comprehensive Comparative Study Of Cdte Thin Films Grown On Ultra-thin Glass Substrates By Close-spaced Sublimation And Rf Magnetron Sputtering. - *Materials Letters.* 1-4.

Mahmuda Khatun Mishu, Md. Rokonuzzaman, Jagadeesh Pasupuleti, Mohammad Shakeri, Kazi Sajedur Rahman, Shuza Binzaid, Sieh Kiong Tiong And Nowshad Amin. (2021). An Adaptive Te-pv Hybrid Energy Harvesting System For Self-powered Iot Sensor Applications. - *Sensors.* 1-21.

Fazliyana Izzati Zaabar, Yulisa Yusoff, Hassan Mohamed, Siti Fazlili Abdullah, Ahmad Wafi Mahmood Zuhdi, Nowshad Amin, Puvaneswaran Chelvanathan, Mohd. Shaparuddin Bahrudin, Kazi Sajedur Rahman, Nurul Asma Samsudin, Wan Syakirah Wan Abdullah. (2021). A Numerical Investigation On The Combined Effects Of Mose2 Interface Layer And Graded Bandgap Absorber In Cigs Thin Film Solar Cells. - *Coatings.* 1-22.

M. S. Chowdhury, Kazi Sajedur Rahman, Vidhya Selvanathan, A. K. Mahmud Hasan, M. S. Jamal, Nurul Asma Samsudin, Md. Akhtaruzzaman, Nowshad Amin, Kuaanan Techato. (2021). Recovery Of Fto Coated Glass Substrate Via Environment-friendly Facile Recycling Perovskite Solar Cells. - *Rsc Advances.* 14534-14541.

Hasrul Nisham Rosly, Kazi Sajedur Rahman, Siti Fazlili Abdullah, Muhammad Najib Harif, Camellia Doroody, Puvaneswaran Chelvanathan, Halina Misran, Kamaruzzaman Sopian, Nowshad Amin. (2021). The Role Of Deposition Temperature In The Photovoltaic Properties Of Rf-sputtered Cdse Thin Films. - *Crystals.* 1-13.

C. Doroody, K.s. Rahman, H.n. Rosly, M.n. Harif, M. Isah, Y.b. Kar, S.k. Tiong, N. Amin. (2021). A Comparative Study Of Cds Thin Films Grown On Ultra-thin Glass Substrates By Rf Magnetron Sputtering And Chemical Bath Deposition. - *Materials Science In Semiconductor Processing.* 1-11.

Md. Rokonuzzaman, Mahmuda Khatun Mishu, Nowshad Amin, Mithulananthan Nadarajah, Rajib Baran Roy, Kazi Sajedur Rahman, Adamu Muhammad Buhari, Shuza Binzaid, Mohammad Shakeri, Jagadeesh Pasupuleti. (2021). Self-sustained Autonomous Wireless Sensor Network With Integrated Solar Photovoltaic System For Internet Of Smart Home-building (ioshb) Applications. - *Micromachines.* 1-16.

Hasrul Nisham Rosly, Kazi Sajedur Rahman, Muhammad Najib Harif, Camellia Doroody, Mustapha Isah, Halina Misran, Nowshad Amin. (2020). Annealing Temperature Assisted Microstructural And Optoelectrical Properties Of Cdse Thin Film Grown By Rf Magnetron Sputtering. - *Superlattices And Microstructures.* 1-9.

C. Doroody, K.s. Rahman, S.f. Abdullah, M.n. Harif, H.n. Rosly, S.k. Tiong, N. Amin. (2020). Temperature Difference In Close-spaced Sublimation (css) Growth Of Cdte Thin Film On Ultra-thin Glass Substrate. - *Results In Physics.* 10321.

Muhammad Najib Harif, Kazi Sajedur Rahman, Hasrul Nisham Rosly, Puvaneswaran Chelvanathan, Camellia Doroody, Halina Misran, Nowshad Amin. (2020). An Approach To Alternative Post-deposition Treatment In Cdte Thin Films For Solar Cell Application. - *Superlattices And Microstructures.* 1-10.

N.k. Das, J. Chakrabartty, S.f.u. Farhad, A.k. Sen Gupta, E.m.k. Ikball Ahamed, K.s. Rahman, A. Wafi, A.a. Alkahtani, M.a. Matin, N. Amin. (2020). Effect Of Substrate Temperature On The Properties Of Rf Sputtered Cds Thin Films For Solar Cell Applications. - *Results In Physics.* 1-8.

Penerbitan WOS

Ahmad Halal, Kazi Sajedur Rahman, Siti Fazlili Abdullah, Kamaruzzaman Sopian, Nowshad Amin. (2021). An Investigation On Cds1-xtex Interface Compound In Cds/cdte Hetero-junction Solar Cells By Density Functional Theory (dft). - *Superlattices And Microstructures.* 1-12.

M. S. Chowdhury, Kazi Sajedur Rahman, Vidhya Selvanathan, Narissara Nuthammachot, Montri Suklueng, Ali Mostafaeipour, Asiful Habib, Md. Akhtaruzzaman, Nowshad Amin, Kuaanan Techato. (2021). Current Trends And Prospects Of Tidal Energy Technology. - *Environment, Development And Sustainability.* 8179-8194.

Mahmuda Khatun Mishu, Md. Rokonuzzaman, Jagadeesh Pasupuleti, Mohammad Shakeri, Kazi Sajedur Rahman, Fazrena Azlee Hamid, Sieh Kiong Tiong, Nowshad Amin. (2020). Prospective Efficient Ambient Energy Harvesting Sources For Iot-equipped Sensor Applications. - *Electronics.* 1345.

Md. Rokonuzzaman, Mohammad Shakeri, Fazrena Azlee Hamid, Mahmuda Khatun Mishu, Jagadeesh Pasupuleti, Kazi Sajedur Rahman, Sieh Kiong Tiong, Nowshad Amin. (2020). Iot-enabled High Efficiency Smart Solar Charge Controller With Maximum Power Point Tracking-design, Hardware Implementation And Performance Testing. - *Electronics.* 1-16.

C. Doroody, K. S. Rahman, H. N. Rosly, M. N. Harif, F. Haque, S. K. Tiong, N. Amin. (2020). Impact Of High Resistivity Transparent (hrt) Layer In Cadmium Telluride Solar Cells From Numerical Simulation. - *Journal Of Renewable And Sustainable Energy.* 1-9.

Penerbitan SCOPUS/ERA

M.n. Harif, K.s. Rahman, C. Doroody, H.n. Rosly, M. Isah, M.a. Alghoul, H. Misran, N. Amin. (2022). Microstructural Evolution Of Oxygen Incorporated Cdte Thin Films Deposited By Close-spaced Sublimation. - *Materials Letters.* 1-5.

Camellia Doroody, Kazi Sajedur Rahman, Tiong Sieh Kiong, Nowshad Amin. (2022). Optoelectrical Impact Of Alternative Window Layer Composition In Cdte Thin Film Solar Cells Performance. - *Solar Energy.* 523-530.

Ahmad Halal, Kazi Sajedur Rahman, Siti Fazlili Abdullah, Kamaruzzaman Sopian, Nowshad Amin. (2021). An Investigation On Cds1-xtex Interface Compound In Cds/cdte Hetero-junction Solar Cells By Density Functional Theory (dft). - *Superlattices And Microstructures.* 1-12.

M. S. Chowdhury, Kazi Sajedur Rahman, Vidhya Selvanathan, A. K. Mahmud Hasan, M. S. Jamal, Nurul Asma Samsudin, Md. Akhtaruzzaman, Nowshad Amin, Kuaanan Techato. (2021). Recovery Of Fto Coated Glass Substrate Via Environment-friendly Facile Recycling Perovskite Solar Cells. - *Rsc Advances.* 14534-14541.

C. Doroody, K.s. Rahman, H.n. Rosly, M.n. Harif, M. Isah, Y.b. Kar, S.k. Tiong, N. Amin. (2021). A Comparative Study Of Cds Thin Films Grown On Ultra-thin Glass Substrates By Rf Magnetron Sputtering And Chemical Bath Deposition. - *Materials Science In Semiconductor Processing.* 1-11.

Md. Rokonuzzaman, Mahmuda Khatun Mishu, Nowshad Amin, Mithulananthan Nadarajah, Rajib Baran Roy, Kazi Sajedur Rahman, Adamu Muhammad Buhari, Shuza Binzaid, Mohammad Shakeri, Jagadeesh Pasupuleti. (2021). Self-sustained Autonomous Wireless Sensor Network With Integrated Solar Photovoltaic System For Internet Of Smart Home-building (ioshb) Applications. - *Micromachines.* 1-16.

M. S. Chowdhury, Kazi Sajedur Rahman, Vidhya Selvanathan, Narissara Nuthammachot, Montri Suklueng, Ali Mostafaeipour, Asiful Habib, Md. Akhtaruzzaman, Nowshad Amin, Kuaanan Techato. (2021). Current Trends And Prospects Of Tidal Energy Technology. - *Environment, Development And Sustainability.* 8179-8194.

Rajib Baran Roy, Md. Rokonuzzaman, Nowshad Amin, Mahmuda Khatun Mishu, Sanath Alahakoon, Saifur Rahman, Nadarajah Mithulananthan, Kazi Sajedur Rahman, Mohammad Shakeri, Jagadeesh Pasupuleti. (2021). A Comparative Performance Analysis Of Ann Algorithms For Mppt Energy Harvesting In Solar Pv System. - *Ieee Access.* 10213-10215.

M. Isah, K.s. Rahman, C. Doroody, M.n. Harif, H.n. Rosly, K. Sopian, S.k. Tiong, N. Amin. (2021). Design Optimization Of Cdte/si Tandem Solar Cell Using Different Transparent Conducting Oxides As Interconnecting Layers. - *Journal Of Alloys And Compounds.* 1-6.

Fazliyana Izzati Zaabar, Yulisa Yusoff, Hassan Mohamed, Siti Fazlili Abdullah, Ahmad Wafi Mahmood Zuhdi, Nowshad Amin, Puvaneswaran Chelvanathan, Mohd. Shaparuddin Bahrudin, Kazi Sajedur Rahman, Nurul Asma Samsudin, Wan Syakirah Wan Abdullah. (2021). A Numerical Investigation On The Combined Effects Of Mose2 Interface Layer And Graded Bandgap Absorber In Cigs Thin Film Solar Cells. - *Coatings.* 1-22.

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Hasrul Nisham Rosly, Kazi Sajedur Rahman, Siti Fazlili Abdullah, Muhammad Najib Harif, Camellia Doroody, Puvaneswaran Chelvanathan, Halina Misran, Kamaruzzaman Sopian, Nowshad Amin. (2021). The Role Of Deposition Temperature In The Photovoltaic Properties Of Rf-sputtered Cdse Thin Films. - *Crystals.* 1-13.

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C. Doroody, K.s. Rahman, S.f. Abdullah, M.n. Harif, H.n. Rosly, S.k. Tiong, N. Amin. (2020). Temperature Difference In Close-spaced Sublimation (css) Growth Of Cdte Thin Film On Ultra-thin Glass Substrate. - *Results In Physics.* 10321.

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Muhammad Irfan Ishak, Riazul Islam Thakur, Chila Kaewpraek, Yap Boon Kar, Kazi Sajedur Rahman, Kuaanan Techato, Md. Akhtaruzzaman, Sieh Kiong Tiong, Nowshad Amin. (2020). An Innovative Approach For Environmental Monitoring By Solar Powered Kite. - *International Journal Of Integrated Engineering.* 257-265.

Muhammad Najib Harif, Kazi Sajedur Rahman, Hasrul Nisham Rosly, Puvaneswaran Chelvanathan, Camellia Doroody, Halina Misran, Nowshad Amin. (2020). An Approach To Alternative Post-deposition Treatment In Cdte Thin Films For Solar Cell Application. - *Superlattices And Microstructures.* 1-10.

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N.k. Das, J. Chakrabartty, S.f.u. Farhad, A.k. Sen Gupta, E.m.k. Ikball Ahamed, K.s. Rahman, A. Wafi, A.a. Alkahtani, M.a. Matin, N. Amin. (2020). Effect Of Substrate Temperature On The Properties Of Rf Sputtered Cds Thin Films For Solar Cell Applications. - *Results In Physics.* 1-8.

C. Doroody, K. S. Rahman, H. N. Rosly, M. N. Harif, F. Haque, S. K. Tiong, N. Amin. (2020). Impact Of High Resistivity Transparent (hrt) Layer In Cadmium Telluride Solar Cells From Numerical Simulation. - *Journal Of Renewable And Sustainable Energy.* 1-9.

Prosiding Terindeks

N. K. Das, S. F. U. Farhad, K. S. Rahman, M. A. Matin, N. Amin. (2020). The Role Of Cds:o/cds Bilayer In The Formation Of Cds1-xtex Intermixed Layer In Cdte Absorber. - *2020 47th Ieee Photovoltaic Specialists Conference (pvsc).* 2242-2246.

Buku Penyelidikan

Kazi Sajedur Rahman. (2022). Comprehensive Guide On Organic And Inorganic Solar Cells Fundamental Concepts To Fabrication Methods. - . 19.

Bab Dalam Buku

Kazi Sajedur Rahman. (2022). Comprehensive Guide On Organic And Inorganic Solar Cells Fundamental Concepts To Fabrication Methods. - . 19.

PROJEK PENYELIDIKAN / RESEARCH PROJECT
(TAJUK),(PERANAN),(TEMPOH),(TAHAP)

Aktif

Elucidating the Interface Mismatch Properties between Cadmium Telluride and Crystalline Silicon Heterostructure for High Efficiency Tandem Solar Cell , Ketua Projek , 07-09-2021 sehingga 06-09-2023 , Kebangsaan

Fabrication and Characterization of Magnesium Zinc Oxide (MZO) Buffer Layer for Cadmium Telluride (CdTe) Thin Film Solar Cells , Ketua Projek , 01-09-2021 sehingga 31-08-2023 , Kebangsaan

Investigation of Ionic Liquid-assisted Crystal Growth of CsPbX3 for realizing Efficient and Stable Perovskite Photovoltaics , Penyelidik Bersama , 01-09-2021 sehingga 31-08-2023 , Universiti

KHIDMAT SOSIAL / SOCIAL @ PUBLIC ENGAGEMENT
(SUMBANGAN),(TEMPOH),(PERINGKAT)

Khidmat Luar

Substrate evolution to microstructural and optoelectrical properties of evaporated CdS thin films correlated with elemental composition , 16-09-2020 sehingga 01-10-2020 , Antarabangsa

End-of-life Management of Bifacial Solar Panels Using High-voltage Fragmentation as Pretreatment Approach , 29-07-2020 sehingga 16-08-2020 , Antarabangsa

Optical methods to identify end-of-life PV panel structure , 06-08-2020 sehingga 22-08-2020 , Antarabangsa

Effect of nature buffer, CISSe thikness layers and temperature on solar cells performance using Scaps-1D simulation program , 19-10-2020 sehingga 07-11-2020 , Antarabangsa

Enhancing efficiencies of solar thermophotovoltaic cells by down-conversion of high-energy photons , 18-11-2020 sehingga 02-12-2020 , Antarabangsa

CdTe colloidal-gel: Synthesis and thin films deposition applied to solar cells , 13-11-2020 sehingga 07-12-2020 , Antarabangsa

Optimization of carrier transport materials for the performance enhancement of the MAGeI3 based perovskite solar cell , 24-11-2020 sehingga 07-12-2020 , Antarabangsa

Investigating the Ni Doping Role on the Optical Transitions and Photocatalytic Behavior in Ni-doped CuSe Thin Layers , 25-12-2020 sehingga 09-01-2021 , Antarabangsa

Field-Supervisor , 10-02-2017 sehingga 10-02-2024 , Kebangsaan

Field-Supervisor , 15-07-2019 sehingga 15-07-2026 , Kebangsaan

Field-Supervisor , 15-10-2018 sehingga 15-10-2025 , Kebangsaan

Field-Supervisor , 01-10-2018 sehingga 01-10-2025 , Kebangsaan

Effect of RF sputtering power and thickness on optical and electrical properties of Indium Tin Oxide thin film , 08-02-2021 sehingga 18-02-2021 , Antarabangsa

Structural, optical and electrical properties of ITO thin films prepared by RF sputtering at room temperature , 27-02-2021 sehingga 02-03-2021 , Antarabangsa

CIGS Photovoltaics: Reviewing a New Paradigm , 29-01-2021 sehingga 09-03-2021 , Antarabangsa

Effect of annealing temperature and atmosphere on the properties of nanoscale thickness ITO films prepared by RF sputtering , 16-04-2021 sehingga 19-04-2021 , Antarabangsa

Cu2ZnSnS4 thin film as a counter electrode in zinc stannate-based dye-sensitized solar cells , 20-04-2021 sehingga 22-05-2021 , Antarabangsa

Numerical Modelling Analysis and Optimization of Mo CdTe Buffer Layer SnO2 Heterojunction Thin Film Based Solar Cell Using SCAPS-1D , 14-07-2021 sehingga 16-07-2021 , Antarabangsa

Investigation of Electrical Parameters of CdTe Photovoltaic Devices by Computational Analysis , 06-08-2021 sehingga 18-08-2021 , Antarabangsa

Application of bromide-iodide lead perovskite thin film as a copper-free back contact layer for CdTe solar cells , 06-08-2021 sehingga 02-09-2021 , Antarabangsa

Investigation of the effect of sublayer change on the CZTS absorbent layer using the electrodeposition method , 19-08-2021 sehingga 12-09-2021 , Antarabangsa

Influence of post annealing temperature on XPS studies, XZ height nanoparticles, Optical density, Single layer percentages and Optical loss in CAZO films , 24-04-2022 sehingga 09-05-2022 , Antarabangsa

How the structural, morphological, optical behaviour of rf sputtered nano Al2O3 coatings affect as a function of low-temperature vacuum annealing , 09-05-2022 sehingga 18-05-2022 , Antarabangsa

Effect of substrate temperature on the structural, electrical and optical properties of ZnO films deposited on glass substrates , 16-05-2022 sehingga 25-05-2022 , Antarabangsa

A QUICK AND FACILE SOLUTION-PROCESSED METHOD FOR PEDOT:PSS TRANSPARENT CONDUCTIVE THIN FILM , 24-05-2022 sehingga 01-06-2022 , Kebangsaan

Rethinking Grid Governance for Texas in the Climate Change Era , 16-05-2022 sehingga 08-06-2022 , Antarabangsa