Dugarjav BAYASGALAN



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PERSONAL INFORMATION

- Date of birth: 3rd July 1982
- Place of birth: Erdenedalai, Dundgovi Province, Mongolia
- Nationality: Mongolian
- Sex: male

EXPERIENCE:

- **Head** of Department of Green Energy and Engineering at the School of Engineering and Technology, National University of Mongolia, September 2024 ~ present.
- **Associate professor** at the School of Engineering and Technology, National University of Mongolia, September 2014 ~ present.
- **Member** of Commission for Science and Technology, Ministry of Energy, Mongolia, September 2019 ~ present.
- **Member of Board,** Association for Renewable Energy Engineers NGO, 2019 ~ present.
- **Member of the steering committee**, Mongolia Energy Club NGO, 2016 ~ present.
- **Chair**, Mongolian Electric Vehicle Association NGO, 2016 ~ present.
- **General Secretary**, Mongolian Society of Asian Super Grid NGO, 2014 ~ present.
- **Vice director** at National Renewable Energy Centre, July 2013~May 2014.
- **Lecturer** at Power Engineering School of Mongolian University of Science and Technology, January 2013~June 2013.

EDUCATION:

Degree programs:

Mongolian University of Science and Technology
Bachelor of Engineering in Electronic System of Machine, June 2005
http://www.must.edu.mn/beta3/,

Konkuk University, Department of Electrical Engineering
Master of Science in Electrical Engineering, 2006~2008.

Konkuk University, Department of Electrical Engineering
PhD of Science in Electrical Engineering, 2008~2013.
http://www.konkuk.ac.kr/, http://electric.konkuk.ac.kr/

Certified programs:

Ministry of Mining and Heavy Industry of Mongolia, National Industrial Council
Title of specialization: Consulting engineer in the Industrial Engineering Field
Certification number: CE202110,

Ministry of Energy of Mongolia, Mongolian Univ.of Science and Technology
Title of specialization: Consulting engineer in Renewable Energy
Certification number: RE340516

Energy Regulatory Commission of Mongolia
Title of specialization: Energy auditor in
Certification number: ЭХА-Y 063/2022

Nondegree programs:

Griffith University in Melbourne, Australia,
Participated in the Energy Sector short-term program with Australia Awards support, Feb 2023.
Tohoku, KIT, and Kumamoto Universities in Japan,
Participated in the non-degree program under the MJEED project support in March 2017.
KTH Royal Institute of Technology, Stockholm, Sweden
Participated in the training session "Modernization of the Curricula in Sphere of Smart Building Engineering –Green Building", GREB April 2~3, 2019,
University of Texas, Austin, Texas, USA
Advanced Energy Course: Texas Power Workshop, September 2019.

PROJECTS

- Renewable energy expert and team leader as International expert on Asian Development Bank, "TA 10618-MON:Preparing the Coal to Solar Transition in Ger Districts of Ulaanbaatar", January 2026 ~ current
- Consultant on Asian Development Bank, "TA-9941 MON: Supporting Renewable Energy Development - CH05 Solar Photovoltaic Expert (52240-002)", March 2025 ~ December 2025
- Consultant on Asian Development Bank, "Feasibility study on Solar Power plant under SREP program in Uvs and Bayankhongor", May 2024 - December 2024
- National consultant on World bank technical assistance program "Mongolia Power and Heating Tariff Reform" July 2022 ~ current
- Principal investigator to International Energy Joint R&D Program, "Operation and Demonstration of the standalone microgrid to explore Mongolian energy industry market" Korea Institute of Energy Technology Evaluation and Planning, i-On Communications, Co.,Ltd. Dec 2021 ~ current
- Local consultant to UNICEF Mongolia for "Development of PV-ESS Hybrid system for Net zero emission energy supply of Covid vaccine store in Mongolia" Feb 2021 ~ April 2021.
- Individual consultant to Global Green Growth Institute for "Promoting Energy Efficiency and ESCO development in Mongolia" Dec 2020 ~ Mar 2021.
- National consultant to GIZ "Capacity Development for Climate Policy in the Countries of South East, Eastern Europe, the South Caucasus and Central Asia, Phase III (CDCP III September 2020 ~ Mar 2021.
- Individual consultant to Global Green Growth Institute for "Regulatory Framework Review on Energy Storage Projects in Mongolia" July 2019 ~ Dec 2019.
- Local consultant for Development of metal floater-based FPV system and 1MW demonstration in Mongolia, Korea Institute of Energy Technology Evaluation and Planning, S-Energy, Nemo-ENG, Silla Univ., June 2017 ~ Mar 2020.
- Research and Development for Power electronics and Industrial Automation, Ministry of Education and Science of Mongolia, M-JEED project, 2016.02~Present
- Local consultant for JICA on "Study on End Life Vehicle Battery Recycle", December 2018.
- Study on implementation of Heating solution for Mongolian traditional tent using Renewable energy, Ministry of Education and Science of Mongolia, Innovation project, July 2016~Dec 2018
- Development of solar-based hybrid distributed generation system for the urban redevelopment project of Ger district in Ulaanbaatar Mongolia, Korea Institute of Energy Technology Evaluation and Planning, BJ-Power Co.,Ltd June 2015 ~ Dec 2018
- A Feasibility study on Utility scale Energy Storage System with 50MW/200MWh to stabilize Central Energy System of Mongolia, "Energy Storage" Co.,Ltd, 2017.02~2017.08
- Study on technical solution of Mongolia role for Development of Northeast Asian Super Grid, Ministry of Energy of Mongolia, Aug 2015 ~ Dec 2015
- A Feasibility study on Super grid in Gobi desert through Northeast Asia consortium, Korea Institute of Energy Technology Evaluation and Planning, Apr 2015 ~ Feb 2016
- Study on optimal solution for Grid connected, residential scale PV system in Mongolia, National University of Mongolia. Feb 2015~Dec 2015
- Feasibility Study on 10MW scale Solar power plant in Sainshand, Khumen Energy Co.,Ltd., Aug 2014 ~ Dec 2014
- Feasibility Study on Peak Demand Reduction of Grid using PV system with ESS, Ministry of Energy of Mongolia, 2014
- Feasibility study on Geothermal CHP plant in Tsetserleg city. (2013), NexGeo Co.,Ltd.
- Development of 3kW scaled Dynamic Voltage Compensator, 2013.06~2013.12, OKY Co.,Ltd.
- The Implementation of MW scale PV plant in Taishir, Durgun area of Mongolia. (2013~), Ministry of Energy of Mongolia.
- High Speed Induction Motor control for Turbo-Blower application. (2012), Seah Group (Aentl) Co.,Ltd. With Seoho Electric Inverter R&D team.

- Development of Energy Saving Variable Speed Generation (VSG) System for RTGC Crane, under Seoho, Inverter R&D Centre, (2010 ~ 2012), PSA port of Singapore.
- Development of 100 kW class Utility Interactive Photo Voltaic PCS (2011~ 2012), SEOHO Electric Co.,Ltd.
- 125kW class Bidirectional DC/DC Converter Development for China market (application area : regeneration of motor driver system, super capacitor charge/discharging), SEOHO Electric Co.,Ltd
- Sensor less Vector Driver for Super High speed PMSM (60,000RPM Turbo Blower application (2010 ~ 2011), AENTL Co.,Ltd.
- 40kW Class Marine Power Supply for Japan market (2010 ~ 2011), SEOHO Electric Co.,Ltd
- A Study on Efficiency Improvement of 3kW Class PCS for Utility Interactive Fuel Cell, (2008 ~ 2010), Researcher, Ministry of Knowledge Economy, Republic of Korea.
- Development Power Peak-Cut Saver System with Energy Storage Device (2008), Researcher, Small and Medium Business Administration, Republic of Korea.
- A Study on Interconnection and Interference Characteristics between Power Utility and Photo voltaic Systems (2006~2008), Ministry of Knowledge Economy, Republic of Korea.

Thesis

- PhD of Science in Electrical Engineering, "Analysis and Design of PV-Interactive Peak-Power Saving System", Dept. of Electrical Engineering, KONKUK University, Seoul, Korea, 2013-2-22, Advisor Gyu-Ha Choe.
- Master of Science in Electrical Engineering, "Characteristics Analysis and Control method of RPV for Anti-Islanding", Dept. of Electrical Engineering, KONKUK University, Seoul, Korea, 2008-2-22, Advisor Gyu-Ha Choe.
- Bachelor of Science in Mechanical Engineering, "Position control system", Dept. of Mechanical Engineering, Mongolian University of Science and Technology, Ulaanbaatar, Mongolia, 2005-6-3, Advisor: Myagmarsukh.

Conference Papers

- Turmandakh Bat-Orgil, **Bayasgalan.D** and Toshihisa Shimizu, "Battery Cell Balancer with Active Power Decoupling Function", 10th International Conference on Power Electronics - ECCE Asia, May. 27 ~ 30, 2019 BEXCO, Busan, Korea
- Battuvshin Bayarkhuu, Bat-Otgon Bat-Ochir, Kazunori Hasegawa, Masanori Tsukuda, **Bayasgalan.D**, Ichiro Omura, "Analog Basis, Low-Cost Inverter Output Current Sensing with Tiny PCB Coil Implemented inside IPM", 2019 31st International Symposium on Power Semiconductor Devices and ICs, May 19~23, 2019, pp. 251~254, Shanghai, China
- Zolzaya.M, Batsugir.B, Turmandakh.B and **Bayasgalan.D**, "Technical Evaluation of Utility-Interactive Photovoltaic Power Generation System with Energy Storage based on the Experimental Setup", IEEE Transportation Electrification Conference, May 8-10, 2019 International Convention Center, Jeju, Korea.
- Zagdkhorol.B, Tsetsgee.B, **Bayasgalan.D**, "The Expansion of Electrical Generations by using Capacity Market Planning in Mongolia", IEEE Transportation Electrification Conference, May 8-10, 2019 International Convention Center, Jeju, Korea.
- Batsugir.B, **Bayasgalan.D**, "Study on prossibility of providing heating and electricity demand of a household using grid connected PV system with energy storage", 8th Asia-Pacific Forum on Renewable Energy, 22~24 August 2018, Ulaanbaatar Mongolia.
- Munkh-Erdene.Ts, **Bayasgalan.D**, "Study on Phase angle Detecting Algorithm for Grid Tied Inverter", 8th Asia-Pacific Forum on Renewable Energy, 22~24 August 2018, Ulaanbaatar Mongolia.
- Naranbaatar.E, **Bayasgalan.D** "The study on application of Hybrid vehicle battery for residential PV system", 8th Asia-Pacific Forum on Renewable Energy, 22~24 August 2018, Ulaanbaatar Mongolia.
- **Bayasgalan.D,** "Grid Integration Challenges of Renewable Energy Sources in Mongolian energy sector", Cooperation seminar on Eco-Energy town project including landfill gas power plant in Mongolia, 27 June 2018, Ulaanbaatar Mongolia.
- Zulmandakh.O, Ankhzaya.B, **Bayasgalan.D**, Gaemyoung Lee, 'Study on the microgrids of consisting of photovoltaic and diesel generations at border checkpoint camps in Mongolia" 6th Eur. Conf. Ren. Energy Sys. 25-27 June 2018, Istanbul, Turkey
- Erdenedalai.B, Bayasgalan.D, and Jeongsoo Yu, "Study on application of HEV battery for nomadic ger in Mongolia", ICESI 2018, March 1~4, 2018, ICC Jeju, Korea.
- **Bayasgalan.D**, Khishigdemberel.G, Zayabaatar.B, Oyundari.D "Grid Integration Challenges of Renewable Energy Sources in Mongolian energy sector", 7th Asia-Pacific Forum on Renewable Energy, 15~18 November 2017, Busan, Korea.
- **Bayasgalan.D**, Myagmardorj.E "Current state of Wind energy sector in Mongolia", Workshop on RE tech & Industry in Asia-Pacific countries, 15 November 2017, Busan, Korea.
- Bayasgalan.D, "The Study on Residential PV system with ESS for Mongolian Household", ICESI 2017, March 20~24, 2017, ICC Jeju, Korea.
- **Bayasgalan.D**, Joon-Hyung Park and Jun-Seok Cho "Renewable Energy Development in Mongolia", 6th Asia-Pacific Forum on Renewable Energy, November 9~12, 2016, Huatai Hotel, Guangzhou, China.
- **Bayasgalan.D** "The Study on PV based Distributed Power system for Apartment in Ulaanbaatar", Energy Tech Insight 2016, August 30~31, 2016, InterContinental Seoul COEX, Korea.
- **Bayasgalan.D**, Jinsoo Song and Li Baoshan "The Study on Super Grid in Northeast Asia and Role of the Mongolia", ICESI 2016, March 21~22, 2016, ICC Jeju, Korea.
- Enebish.N, Jigjid.B and **Bayasgalan.D** "Asian SuperGrid and Energy Integration of Northeast Asia", North East Asian Energy Connectivity Workshop, March 17~18, 2016, Ulaanbaatar, Mongolia.
- **Bayasgalan.D**, Young-Ho Lee, Jinsoo Song "The Study on Structure Optimization of Residential PV System for Mongolian

Household", AFORE-2015, 5th Asia-Pacific Forum on Renewable Energy, November 4~7, 2015, Lotte Hotel, Jeju, Korea.

- Batbayar Chadraa, **Bayasgalan.D**, Young-Ho Lee and Jinsoo Song, "The role of the Mongolia for Development of Northeast Asian Super Grid", AFORE-2015, 5th Asia-Pacific Forum on Renewable Energy, November 4~7, 2015, Lotte Hotel, Jeju, Korea.
- Boldbaatar.B, Young-Ho Lee, **Bayasgalan.D**, Jinsoo Song "Pumped Storage Hydropower Plant in Mongoia", AFORE-2015, 5th Asia-Pacific Forum on Renewable Energy, November 4~7, 2015, Lotte Hotel, Jeju, Korea.
- **Bayasgalan.D** "Northeast Asian Super Grid and Role of Mongolia", 1st International Joint Workshop on Super Grid in Northeast Asia, June 25, 2015, National University of Mongolia, Ulaanbaatar, Mongolia
- Jigjid.B, **Bayasgalan.D** "Mongolian role in NEA Super Grid" Northeast Asian Energy Connectivity Workshop, March 17-18, 2015 in Consensus" Hall at Ministry of Foreign Affairs, Ulaanbaatar, Mongolia
- **Bayasgalan.D** and Amarbayar.A "The current state of energy sector in Mongolia, development trends", Smart Grid-Electric Vehicle - Clean Energy Workshop and Conference, March 13, 2015, ICC Jeju, Korea.
- **Bayasgalan.D** and G. H. Choe "Peak load reduction of Electric grid using Solar energy", National Renewable Energy Forum-2013, October 3-4, 2013, Tuushin Hotel, Ulaanbaatar, Mongolia.
- **Bayasgalan.D**, D. H. Han, Y. J. Lee, J. S. Ryu, Y. M. Choi, S. H. Lee, H. R. Choi and G. H. Choe "Improved RTGC System with Voltage Compensation Converter to Reduce Fuel Consumption", ECCE2012, September 15-20, 2012, Raleigh, North Caroline, USA.
- X. L. Peng, **Bayasgalan.D**, J. S. Ryu and S. H. Lee "The Development of High Power 3 Level Inverter based on FPGA", 2012 Power Electronics Annual Conference, July 3-6, 2012, Muju, Jonla Bugdo, Korea.
- **Bayasgalan.D**, J. S. Ryu and S. H. Lee "Study on T-Type Multi Level Inverter for UIPV System", 2012 Power Electronics Annual Conference, July 3-6, 2012, Muju, Jonla Bugdo, Korea.
- **Bayasgalan.D**, D. H. Han, Y. J. Lee, J. S. Ryu, Y. M. Choi, S. H. Lee and G. H. Choe "Control of Improved RTGC System with Reduced Fuel Consumption", IPEMC 2012-Asia, June 2-5, 2012, Harbin China.
- **Bayasgalan.D**, Yerganat. Kh, Davaanyam. J and G. H. Choe, "The Optimized Operation of GENSET to Reduce Fuel Consumption", ICE-2012, May 12-13, 2012, MUSTAK 3th International Conf., Mokwon Univ., Daejon. Korea
- Youngjin Lee, Han. D.H, Ban.C.H, Gyu-Ha Choe, Eun.J.M and **Bayasgalan,D**, "Study on Li-Battery charge control based on DC-grid", Power Electronics and ECCE Asia (ICPE & ECCE), 2011 IEEE 8th International Conf., The Shilla Jeju, Jeju, Korea, May 30~June 3, 2011, pp. 2241~2247.
- **Bayasgalan.D**, Ji-Su Ryu, Dong-Hwa Han, Young-Jin Lee, Sang-Ho Lee and Gyu-Ha Choe "A Development of Voltage Compensation Converter to decrease fuel consumption of RTGC" (KIPE Summer Conf.) 2011-July, pp. 280~282.
- Ji-Su Ryu, **Bayasgalan.D** and Sang-Ho Lee, "Development of Super High Speed PMSM Drive" (KIPE Summer Conf.) 2010-July, pp. 289~290.
- Wan-Sung Kwon, Su-Kyung Choi, Jung-Muk Choi, **Bayasgalan.D**, Gyu-Ha Choe, "A Study on Arc Pattern of Arc Generator Based on UL1699", (KIPE-Summer Conf. 2009)
- **Bayasgalan.D**, Yong-Jin Lee, Wang-Song Gwon, Suk-Yong Choe, Gyu-Ha Choe, Beong-Hwang Jeong*, Woo-Sok Shin, "A Study on Improved Operation Method of Utility Interactive Distributed Generator", (KIPE-Summer Conf), July 2009, pp. 678~680.
- **Bayasgalan.D**, Yong-Jin Lee, Dong-Hwa Han, Young-Sik Kim, Wang-Song Gwon, Beong-Hwang Jeong, Woo-Sok Shin, Gyu-Ha Choe, "Analyze of High Efficiency PCS for Fuel Cell", (KIPE-Autumn Conf. 2008), Oct 2008, pp. 100~102.
- **Bayasgalan.D**, Young-Jin Lee, Byong-Hwan Jeong, Hong-Sung Kim, Gyu-Ha Choe, "Analytical comparison of AFD and RPV methods for Anti-Islanding", (KIPE-Autumn Conf. 2008), Oct 2008, pp. 64~67.
- Jong-Chan Park, **Bayasgalan.D**, Zayabaatar, Hae-Sung Heo, Gyu-Ha Choe, "A Study on High Value Grid Connected PV System", (KIPE-Summer Conf.2007), July 3-6, 2007, pp. 515~517.

Journal Papers

- Turmandakh Bat-Orgil, Battuvshin Bayarkhuu, **Bayasgalan Dugarjav**, and Insu Peak "Impact Assessment of Grid-Connected Solar Photovoltaic Systems on Power Distribution Grid: A Case Study on a Highly Loaded Feeder in Ulaanbaatar Ger District" *Energies* **2025**, *18*(2), 358, Q1
- B.Bayarkhuu, B.Bat-Ochir, **B.Dugarjav** and I.Omura "Single PCB Sensor-Based Output Current Reproduction for Three-Phase Inverter Systems" Power Electronic Devices and Components, Vol-7, April 2024,
- Taehun Son, Ha Bich Trinh, Seunghyun Kim, **Bayasgalan Dugarjav** and Jaeryeong Lee "Estimation of Energy Consumption for Concentrate Process of Tungsten Ore towards the Integration of Renewable Energy Sources in Mongolia" Minerals 13(8):1059, August 2023, Q2
- Dongmyoung Kim, Taesu Jeon, Insu Paek, and **Bayasgalan.D** "A study on the improved Power control algorithm for a 100kW Wind Turbine", Energies 2023-January, 16, 619; Q1
- Yuan Song, Taesu Jeon, Insu Paek and **Bayasgalan.D** "Design and Validation of Pitch H-Infinity Controller for a Large Wind Turbine", Energies 2022-November, 15(22):8763, Q1
- Turmandakh Bat-Orgil, **Bayasgalan.D**, Toshihisa Shimizu "Battery module equalizer based on the state of charge observation derived from overall voltage variation", IEEJ Journal of Industry Applications, 9(5):584-596, Q2
- Turmandakh Bat-Orgil, **Bayasgalan.D**, Toshihisa Shimizu "Cell equalizer for recycling batteries from hybrid electric vehicles", Journal of Power Electronics, Vol. 20, 811-822, 2020, Q3
- Bat-Otgon Bat-Ochir, Battuvshin Bayarkhuu, Kazunori Hasegawa, Masanori Tsukuda, **Bayasgalan.D**, Ichiro Omura, "Envelop

tracking based embedded current measurement for monitoring of IGBT and power converter system", Journal of Microelectronics Reliability, Vol. 88–90, 2018- September, pp. 500-504, Q1

- Battuvshin.B, Turmandakh.B, Joon Hyung Park, **Bayasgalan.D**, "The study on Development of PV-ES hybrid system for Mongolian Household", Journal of The Transactions of the Korean Institute of Electrical Engineers", Vol. 66, No. 12, 2017, pp. 1905~1912, Q4
- **Bayasgalan.D**, Sang-Ho Lee, Dong-Hwa Han, Young-Jin Lee and Gyu-Ha Choe, "A Study on Variable Speed Generation System with Energy Saving Function", Journal of Electrical Engineering & Technology, Vol. 8, No. 1, 2013, pp. 137~143. Q2
- Young-Sik Kim, **Bayasgalan.D**, Hye-Seong Heo, and Gyu-Ha Choe, "Improved Operating Method of Utility Interactive PV System for Peak Power Cut Effect", Journal of KIPE, 14-5, 2009-Oct, pp. 415~422.
- Gyu-Ha Choe, **Bayasgalan.D**, Young-Jin Lee, Dong-Ha Han, Byong-Hwan Jeong and Hong-Sung Kim, "Characteristics Analysis of RPV and AFD for Anti-Islanding in Active Method", Journal of KIPE, 14-2, 2009-April, pp. 160~167.

INTERESTS AND ACTIVITIES

Currently include Reading, Hiking & gym training, Billiard, Hunting

REFERENCES ARE AVAILABLE ON REQUEST