Dr. Wonsuk Ko

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EDUCATION:

- **Ph.D., Electrical Engineering**   2007
  University of Central Florida, College of Engineering & Computer Science, Orlando, FL

- **M.S., Electrical Engineering**   1998
  Gachon University, South Korea

- **B.S., Electrical Engineering**   1996
  Gachon University, South Korea

EXPERIENCE:

Dec. 2014 ~ Jan. 2022 Assistant Professor
Feb. 2022 ~   Associate Professor
        Department of Electrical Engineering, King Saud University, KSA

CERTIFICATIONS OR PROFESSIONAL REGISTRATIONS:

- Patent, SYSTEM AND METHOD FOR PROVIDING ADDITIONAL SERVICE OF ELECTRIC VEHICHE CHARGING STATION, IPC : H02J 7/00(2013.01) G06Q 50/30B0(2013.01), Korea
- Patent, SYSTEM AND METHOD FOR PROVIDING ADDITIONAL SERVICE IN CHARGING BATTERY CHANGE OF ELECTRIC VEHICHE, IPC :H01M 10/44(2013.01) H02J 7/00(2013.01) B60L 11/18(2013.01) G06Q 50/30B0(2013.01), Korea

FUNDED RESEARCH GRANTS:

- Researched Development of PV System on-line monitoring performance and fault detection algorithm funded by Korea Government, Co-PI (2016~2019)
- Researched Development of Supertall Building Management Technology funded by Korea Government, Project Manager (2011~2014)
- Researched Development of desalination system connected Renewable System by Korea Government
- Researched A Suitable Site environment search for Korea Micro Energy Grid Funded by K-MEG (2012)
- Researched End Node Operation Technology based on XML Standard funded by Korea Institute of Energy Research (2011)
- Researched Development of Smart City Energy Management System funded by Korea

Government (2011~2012)

- Researched Development of Cost Reduction for Desalination System based on SmartGrid funded by Doosan Heavy Industry, Project Manager. (2010~2012)
- Researched Consumer Portal System based on Power IT funded by Korea Government, Project Manager. (2005~2010)

SELECTED PUBLICATIONS (Latest and Selected) :

- Khan, M., Naeem, M. R., Al-Ammar, E. A., **Ko, W**., Vettikalladi, H., & Ahmad, I. (2022). Power Forecasting of Regional Wind Farms via Variational Auto-Encoder and Deep Hybrid Transfer Learning. *Electronics*, *11*(2), 206.
- Al-Ammar, E. A., Ul Haq, A., Iqbal, A., **Ko, W**., Jalal, M., Anjum, M. A., ... & Kang, H. K. (2021). Synchronous Reference Frame Theory Based Intelligent Controller for Current THD Reduction. *Journal of Electrical Engineering & Technology*, *16*(6), 2917-2936.
- Khan, M., Al-Ammar, E. A., Naeem, M. R., **Ko, W**., Choi, H. J., & Kang, H. K. (2021). Forecasting renewable energy for environmental resilience through computational intelligence. *Plos one*, *16*(8), e0256381.
- Al-Ammar, E. A., Ghazi, G. A., **Ko, W**., Khan, Y., Beroual, A., Hong, J., & Song, S. H. (2021). Comprehensive impact analysis of ambient temperature on multi-objective capacitor placements in a radial distribution system. *Ain Shams Engineering Journal, 12(1),* 717-727.
- Al-Shammari, S., **Ko, W**., Al Ammar, E. A., Alotaibi, M. A., & Choi, H. J. (2021). Optimal Decision-Making in Photovoltaic System Selection in Saudi Arabia. Energies, 14(2), 357.
- I. Ahmad, M. A. Ali and **W. Ko**, "Robust μ-Synthesis with Dahl Model Based Feedforward Compensator Design for Piezo-Actuated Micropositioning Stage," in IEEE Access, vol. 8, pp. 141799-141813, (2020), doi: 10.1109/ACCESS.2020.3013570
- Rahman, M. M., Al-Ammar, E. A., Das, H. S., & **Ko, W.** (2020). Comprehensive impact analysis of electric vehicle charging scheduling on load-duration curve. *Computers & Electrical Engineering, 85*, 106673
- Al-Ammar, E. A., Habib, H. U. R., Kotb, K. M., Wang, S., **Ko, W**., Elmorshedy, M. F., & Waqar, A. (2020). Residential community load management based on optimal design of standalone HRES with model predictive control. *IEEE Access, 8*, 12542-12572
- Majid Aljalal, Sutrisno Ibrahim, Ridha Djemal, **Wonsuk Ko**. Comprehensive review on brain controlled mobile robots and robotic arms based on electroencephalography signals. *Intel Serv Robotics* 13, 539–563 (2020). https://doi.org/10.1007/s11370-020-00328-5
- **Ko, W**., Vettikalladi, H., Song, S. H., & Choi, H. J. (2020). Implementation of a Demand-Side Management Solution for South Korea's Demand Response Program. *Applied Sciences*, 10(5), 1751.
- **Ko, Wonsuk**, Essam Al-Ammar, and Mohammad Almahmeed. "Development of Feed-in Tariff for PV in the Kingdom of Saudi Arabia." *Energies* 12.15 (2019): 2898
- Hyeong-Jin Choi, Seung-Ho Song, **Wonsuk Ko**, Sisam Park, "Case Study of Demand Response operation using Management Program in South Korea", International Journal of Engineering Research and Technology, Vol 11, No 6, (2018)
- Essam A Al-Ammar, Ghazi A Ghazi and **Wonsuk Ko**, "Impact of Ambient Temperature on Shunt Capacitor Placement in a Distorted Radial Distribution System", *Energies*, Vol 11, No.6 (2018)

- Al-Ammar, E. A., Ghazi, G. A., & **Ko, W**. (2018). Optimal capacitor placement in radial distribution systems using a fuzzy-dragonfly method. *Int J Smart Grid Clean Energy*, 8, 116-1124.
- **W.Ko** and T.Han, "Analysis of Consumer Preference for Electric Vehicles", *IEEE Trans. Smart Grid*, Vol.4, No.1 Mar (2013)
- T.Han, T,Zhungfu, and **W.Ko** "Design of Time-varying Rate Considering CO2 Emission" *IEEE Trans. Smart Grid*, Vol.4, No.1 Mar (2013)

- Google Scholar : https://scholar.google.com/citations?user=SIK9pBwAAAAJ&hl=en