

Mohd. Hasan Ali, Ph.D.

Assistant Professor

Dept. of Electrical and Computer Engineering

212 Engineering Science Bldg

The University of Memphis

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Objective

To maintain a faculty position in the area of electric power and energy systems.

Education

Ph.D., Electrical & Electronic Engineering, Kitami Institute of Technology (KIT), Japan, March 2004.

Thesis title: A Fuzzy Logic Controlled Braking Resistor for Power System Transient Stability Enhancement.

Thesis supervisor: Dr. Junji Tamura, Professor.

M. Sc., Electrical & Electronic Engineering, Kitami Institute of Technology (KIT), Japan, March 2001.

Thesis title: Study of Power System Stabilization by Fuzzy Logic Controlled Braking Resistor.

Thesis supervisor: Dr. Junji Tamura, Professor.

B. Sc., Electrical & Electronic Engineering, Rajshahi University of Engineering and Technology (RUET) [former BIT-Rajshahi], Bangladesh, January 1995.

Thesis title: Fault Current Analysis.

Thesis supervisor: Dr. Md. Yeakub Hussain, Professor.

Research Interests

- Advanced power system analysis, dynamics, stability, and control
- Smart-grid and micro-grid systems
- Renewable energy systems, especially wind power & photovoltaic power generation systems, and Fuel cells
- Cyber-physical systems
- Application of power electronics
- Application of fuzzy logic control to power systems
- Electric ship systems modeling and analysis

Work Experience

Assistant Professor

University of Memphis, Dept. of Electrical and Computer Engineering, 212 Engineering Science Bldg,
Memphis, TN 38152-3180, USA

Employment Period: August 20, 2011 – Present

Job Duties: Teaching and supervising students in electrical and computer engineering with a focus on advanced power systems, smart-grid systems, renewable energy systems, and intelligent control techniques; performing and documenting research in scholarly journals; participating in curriculum development; and providing service to the department, university and profession.

Faculty

University of South Carolina (USC), Dept. of Electrical Engineering, 301 South Main Street, Columbia, SC
29208, USA

Employment Period: July 01, 2009 – August 19, 2011

Job Duties: Teaching, conducting and supervising research in electrical engineering, developing new research projects and proposals in cooperation with other members of the group, documenting research in scholarly journals, developing simulation models of power system components using various simulation tools, developing control strategies for advanced electric systems, and designing advanced electric systems and assembling simulation models to represent those systems.

Postdoctoral Research Fellow

Ryerson University, Dept. of Electrical and Computer Engineering, George Vari Engineering & Computing
Center, 245 Church Street, Toronto, Ontario, M5B 1Z2 Canada

Employment Period: January 01, 2008 – June 30, 2009

Job Duties: Performing research works in electrical engineering with a focus on application of high power converters to advanced power systems, wind power generation systems and superconducting magnetic energy storage (SMES) systems; and producing publications.

Research Professor

Changwon National University (CNU), Dept. of Electrical Engineering, 9 Sarim-Dong, Changwon, Gyeongnam, 641-773 South Korea

Employment Period: February 01, 2007 – December 31, 2007

Job Duties: Teaching and supervising graduate students in electrical engineering with a focus on EMTDC simulation & RTDS operation technology engineering and advanced power systems; performing researches on advanced power and wind energy systems; producing publications; and participating in academic works.

JSPS (Japan Society for the Promotion of Science) Postdoctoral Research Fellow

Kitami Institute of Technology (KIT), Dept. of Electrical and Electronic Engineering, 165 Koen-cho, Kitami, Hokkaido, 090-8507 Japan

Employment Period: November 19, 2004 – January 31, 2007

Job Duties: Performing researches in electrical and electronic engineering with a focus on advanced power and wind energy systems using fuzzy logic-controlled superconducting magnetic energy storage (SMES); producing publications; and advising graduate students.

Assistant Professor

Rajshahi University of Engineering and Technology (RUET) [former BIT-Rajshahi], Dept. of Electrical and Electronic Engineering, P.O. Kazla, Rajshahi-6204, Bangladesh

Employment Period: September 21, 2004 – November 04, 2004

Job Duties: Teaching and supervising undergraduate and graduate students in electrical and electronic engineering with a focus on advanced power systems, electrical machines, electrical circuits and intelligent control techniques; performing research works on advanced power systems; producing publications; participating in curriculum development; and providing service to the department, university and profession.

Lecturer

Rajshahi University of Engineering and Technology (RUET) [former BIT-Rajshahi], Dept. of Electrical and Electronic Engineering, P.O. Kazla, Rajshahi-6204, Bangladesh

Employment Period: August 01, 1996 – September 20, 2004 (Granted leave for M.Sc. Engg.

and Ph.D. study programs in Japan from November 15, 1998 to March 28, 2004)

Job Duties: Teaching and supervising undergraduate students in electrical and electronic engineering with a focus on advanced power systems, electrical machines, electrical circuits and basic electronics; performing research works on advanced power systems; producing publications; participating in curriculum development; and providing service to the department, university and profession.

Part-Time Lecturer

Rajshahi University of Engineering and Technology (RUET) [former BIT-Rajshahi], Dept. of Electrical and Electronic Engineering, P.O. Kazla, Rajshahi-6204, Bangladesh

Employment Period: March 08, 1995 –July 31, 1996

Job Duties: Teaching undergraduate students in electrical and electronic engineering with a focus on electrical machines, advanced power systems, electrical circuits, basic electronics and power electronics; performing research works on advanced power systems; producing publications; and providing service to the department, university and profession.

Courses Taught

Graduate Courses

- [1] Wind Energy Conversion Systems-EECE 7903/8903 (Fall 2011 Semester, UofM)
- [2] Directed Individual Study-ELCT897 (Summer I & II 2011 Semester, USC)
- [3] Power Systems Grounding and Transients-ELCT752 (Spring 2011 Semester, USC)
- [4] Electrical Drives-ELCT753 (Spring 2010 Semester, USC)
- [5] RTDS Operation Technology Engineering (CNU, South Korea, 2007)
- [6] EMTDC Simulation Engineering (CNU, South Korea, 2007)
- [7] Application of Fuzzy Logic Control to Power Systems (RUET, Bangladesh, 2004)
- [8] Generalized Machine Theory (RUET, Bangladesh, 2004)

Undergraduate Courses

- [1] Signals and Systems-ELCT222 (Fall 2009 Semester, USC)
- [2] Electrical Machines [Including Laboratory Classes] (RUET, Bangladesh, 1995-2004)
- [3] Basic AC and DC Circuits [Including Laboratory Classes] (RUET, Bangladesh, 1995-2004)
- [4] Basic Electronics [Including Laboratory Classes] (RUET, Bangladesh, 1995-1998)

Academic Awards and Scholarships

- [1] Outstanding Paper Awards in the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007) held at Seoul, South Korea, October 08-11, 2007 (Paper titles: “Improvement of Wind Generator Stability by Fuzzy Logic-Controlled SMES” and “The Experimental Analysis of the Grid-Connected PV System Applied by POS MPPT”).
- [2] IEEE Sapporo Section Student Paper Contest Award 2002, Japan (Paper title: Improvement of Transient Stability by Fuzzy Logic Controlled Braking Resistor (Effect of temperature rise of braking resistor)).
- [3] JSPS (Japan Society for the Promotion of Science) Postdoctoral Fellowship (the most competitive and prestigious postdoctoral fellowship in the world) since November 2004 to January 2007.
- [4] MINT (Academic Excellence) Award 2002 from Kitami Institute of Technology, Japan.
- [5] Japan Government (Monbukagakusho) Scholarship since November 1998 to March 2004.
- [6] Because of the reference value of my outstanding achievements, **Marquis Who's Who** has included my biographical profile in the *25th Silver Anniversary Edition* of **Who's Who in the World**, pp. 147, 2008, and also in 2009 and 2010 Editions.

Scholarly Activities

- [1] **Reviewer (Transactions/Journals)**
 - IEEE Transactions on Power Systems
 - IEEE Transactions on Energy Conversion
 - IEEE Transactions on Power Delivery
 - IEEE Transactions on Sustainable Energy
 - IEEE Transactions on Smart Grid
 - IEEE Transactions on Industry Applications
 - IEEE Transactions on Control Systems Technology
 - IEEE Transactions on Industrial Electronics
 - IEEE Transactions on Power Electronics
 - International Journal of Electrical Power and Energy Systems
 - Journal of IET Renewable Power Generation,
 - Journal of IET Generation, Transmission and Distribution
 - International Journal of Automation and Control (IJAAC)
 - World Scientific and Engineering Academy and Society (WSEAS) Journal
 - Journal of Zhejiang University-SCIENCE A
 - Journal of Control Engineering Practice.
- [2] **Reviewer (International Conferences)**
 - Sixth International Conference on Power Electronics and Drive Systems (PEDS 2005), 28 Nov-1 Dec 2005, Kuala Lumpur, Malaysia

- IEEE CCECE (Canadian Conference on Electrical and Computer Engineering) 2008
- IEEE International Symposium on Circuits and Systems (ISCAS 2010), May 30-June 02, 2010, Paris, France.
- IEEE Electric Ship Technologies Symposium (ESTS) 2011, April 10-13, Virginia, USA.
- [3] **Chairman** of the Session titled “Fuzzy control and intelligent techniques”-7th WSEAS International Conference on Power Systems, Beijing, China, September 15-17, 2007.
- [4] **Selected Chairman** of the Session titled “Power Generation and Distribution-TP-PG-5”-IEEE International Conference on Industrial Technology (ICIT), Gippsland, Australia, February 10-13, 2009.
- [5] **Invited Lecture** on “Wind Energy Systems”, Invited by Dr. Krishna Chandra Mandal, University of South Carolina, USA, February 03, 2010 and February 10, 2011.
- [6] **Special Lecture** on “Improvement of Presentation Skills for International Papers”, Changwon National University, South Korea, August 22, 2007.
- [7] **Special Lecture** on “International Collaboration Research for Minimization of Frequency Fluctuations of Wind Power System at Ulleong Island of South Korea”, Renewable Energy Foreign Professional Workshop-2007, Ramada Plaza Hotel, Jeju Island, October 12-13, 2007.

Membership in Professional Organizations

- [1] **Senior Member**
Institute of Electrical and Electronics Engineers (IEEE), USA, June 2008 to present.
- [2] **Member**
Institute of Electrical Engineers of Japan (IEEJ), 1999-2007.
- [3] **Member**
Institution of Engineers in Bangladesh (IEB), 1995-1998, 2004-2005.

List of Publications [Total 102]

Papers in Refereed Journals [Total 37]

- [1] **M. H. Ali**, B. Wu, and R. A. Dougal, “An Overview of SMES Applications in Power and Energy Systems,” *IEEE Transactions on Sustainable Energy*, vol. 1, no.1, pp. 38-47, April 2010.
- [2] **M. H. Ali**, B. Wu, J. Tamura, and R. A. Dougal, “Minimization of Shaft Oscillations by Fuzzy Controlled SMES Considering Time Delay,” *Journal of Electric Power Systems Research*, vol. 80, pp. 770-777, July 2010.
- [3] **M. H. Ali** and B. Wu, “Comparison of Stabilization Methods for Fixed-Speed Wind Generator Systems,” *IEEE Transactions on Power Delivery*, Vol. 25, No. 1, pp. 323-331, January 2010.
- [4] **M. H. Ali**, M. Park, I. -k. Yu, T. Murata, J. Tamura, and B. Wu, “Enhancement of Transient Stability by Fuzzy Logic-Controlled SMES Considering Communication Delay,” *International Journal of Electrical Power and Energy Systems*, Vol. 31, Issues 7-8, pp. 402-408, September 2009.

- [5] **M. H. Ali**, M. Park, I. -k. Yu, T. Murata, and J. Tamura, "Improvement of Wind Generator Stability by Fuzzy Logic-Controlled SMES," *IEEE Transactions on Industry Applications*, Vol. 45, No. 3, pp. 1045-1051, May/June 2009.
- [6] S. M. Muyeen, R. Takahashi, T. Murata, J. Tamura, **M. H. Ali**, Y. Matsumura, A. Kuwayama, and T. Matsumoto, "Low Voltage Ride Through Capability Enhancement of Wind Turbine Generator System During Network Disturbance," *Journal of IET Renewable Power Generation*, 2009, Vol. 3, No. 1, pp. 65-74, March 2009.
- [7] S. M. Muyeen, R. Takahashi, T. Murata, J. Tamura, and **M. H. Ali**, "Application of STATCOM/BESS for Wind Power Smoothing and Hydrogen Generation," *Journal of Electric Power Systems Research*, Vol. 79, Issue 2, pp. 365-373, February 2009.
- [8] **M. H. Ali**, T. Murata, and J. Tamura, "Influence of Communication Delay on the Performance of Fuzzy Logic-Controlled Braking Resistor Against Transient Stability," *IEEE Transactions on Control Systems Technology*, Vol. 16, No. 6, pp. 1232-1241, November 2008.
- [9] J. H. Kim, M. Park, **M. H. Ali**, A. R. Kim, S. R. Lee, J. Y. Yoon, J. Cho, K. D. Sim, S. H. Kim, and I. K. Yu, "A SFCL Modeling and Application with Real HTS Material Connecting to Real Time Simulator," *Journal of Physica C: Superconductivity and Its Applications*, Vol. 468, Issues 15-20, pp. 2067-2071, September 2008.
- [10] A.R. Kim, H.Y. Jung, J.H Kim , **M. H. Ali**, M. Park, I. K. Yu, H.J. Kim, S.H. Kim, and K.C. Seong, "A Study on the Operation Analysis of the Power Conditioning System with Real HTS SMES Coil," *Journal of Physica C: Superconductivity and Its Applications*, Vol. 468, Issues 15-20, pp. 2104-2110, September 2008.
- [11] S. M. Muyeen, R. Takahashi, **M. H. Ali**, T. Murata, and J. Tamura, "Transient Stability Augmentation of Power System Including Wind Farms by Using ECS," *IEEE Transactions on Power Systems*, Vol. 23, No. 3, pp. 1179-1187, August 2008.
- [12] S. M. Muyeen, S. Shishido, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Application of Energy Capacitor System to Wind Power Generation," *Journal of Wind Energy*, Vol. 11, Issue 4, pp. 335-350, July/August 2008.
- [13] D. -J. Park, Y. -J. Kim, H. -R. Seo, M. Park, I. -K. Yu, and **M. H. Ali**, "Comparison of PSCAD/EMTDC & RTDS-based Simulations of a Pitch Controlled Wind Power Generation System," *Pulse, The Manitoba HVDC Research Centre Journal*, pp. 10-12, June 2008.
- [14] J. -H. Kim, M. Park, **M. H. Ali**, J. Cho, K. Sim, S. Kim, H. -J. Kim, S. J. Lee, and I. -K. Yu, "Investigation of the Over Current Characteristics of HTS Tapes Considering the Application for HTS Power Device," *IEEE Transactions on Applied Superconductivity*, Vol. 18, No. 2, pp. 1139-1142, June 2008.
- [15] J.-Ho Kim, M. Park, **M. H. Ali**, J. Cho, J.-Y. Yoon, S. R. Lee, and I.-K. Yu, "RTDS Analysis of the Fault Currents Characteristics of HTS Power Cable in Utility Power Network," *IEEE Transactions on Applied Superconductivity*, Vol. 18, No. 2, pp. 684-688, June 2008.

- [16] A.-R. Kim, K.-H. Kim, J.-H. Kim, **M. H. Ali**, M. Park, I.-K. Yu, H.-J. Kim, S.-H. Kim, and K.-C. Seong, "Operational Characteristic of the High Quality Power Conditioner with SMES," *IEEE Transactions on Applied Superconductivity*, Vol. 18, No. 2, pp. 705-708, June 2008.
- [17] **M. H. Ali**, T. Murata, and J. Tamura, "Transient Stability Enhancement by Fuzzy Logic-Controlled SMES Considering Coordination with Optimal Reclosing of Circuit Breakers," *IEEE Transactions on Power Systems*, Vol. 23, No. 2, pp. 631- 640, May 2008.
- [18] **M. H. Ali**, M. Park, and I.-K. Yu, "Minimization of Shaft Torsional Oscillations by Fuzzy Controlled Braking Resistor Considering Communication Delay," *WSEAS Transactions on Power Systems*, Issue 3, Vol. 3, pp. 82-89, March 2008.
- [19] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, J. Tamura, Y. Tomaki, A. Sakahara, and E. Sasano, "Damping of Blade-Shaft Torsional Oscillations of Wind Turbine Generator System," *Journal of Electric Power Components and Systems*, Vol. 36, No. 2, pp. 195-211, February 2008.
- [20] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Wind Generator Output Power Smoothing by Using Pitch Controller," *International Review of Electrical Engineering (IREE)*, Vol.2, No. 3, pp. 310-321, June 2007.
- [21] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, J. Tamura, Y. Tomaki, A. Sakahara, and E. Sasano, "Comparative Study on Transient Stability Analysis of Wind Turbine Generator System Using Different Drive Train Models," *Journal of IET Renewable Power Generation*, 2007, Vol. 1, No.2, pp. 131-141, June 2007.
- [22] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, J. Tamura, Y. Tomaki, A. Sakahara, and E. Sasano, "Analysis of Wind Generator Transient Stability Considering Six-Mass Drive Train Model," *International Review of Electrical Engineering (IREE)*, Vol.2, No. 1, pp. 91-102, February 2007.
- [23] **M. H. Ali**, T. Murata, and J. Tamura, "A Fuzzy Logic-Controlled Superconducting Magnetic Energy Storage (SMES) for Transient Stability Augmentation," *IEEE Transactions on Control Systems Technology*, Vol. 15, No.1, pp. 144-150, January 2007.
- [24] **M. H. Ali**, T. Murata, and J. Tamura, "Effect of Fuzzy Controlled Braking Resistor on Damping Turbine Generator Shaft Torsional Oscillations During Unsuccessful Reclosing," *International Review of Electrical Engineering (IREE)*, Vol. 1, No. 5, pp. 711-718, December 2006.
- [25] **M. H. Ali**, T. Murata, and J. Tamura, "Minimization of Fluctuations of Line Power and Terminal Voltage of Wind Generator by Fuzzy Logic-Controlled SMES," *International Review of Electrical Engineering (IREE)*, Vol. 1, No. 4, pp. 559-566, October 2006.
- [26] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, J. Tamura, Y. Tomaki, A. Sakahara, and E. Sasano, "Transient Stability Analysis of Grid Connected Wind Turbine Generator System Considering Multi-Mass Shaft Modeling," *Journal of Electric Power Components and Systems*, Vol. 34, No. 10, pp. 1121-1138, October 2006.
- [27] S. M. Muyeen, M. A. Mannan, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Stabilization of Wind Turbine Generator System by STATCOM," *IEEE Transactions on Power and Energy*, Vol.126, No.10, pp.1073-1082, October 2006.

- [28] **M. H. Ali**, T. Murata, and J. Tamura, "Effect of Coordination of Optimal Reclosing and Fuzzy Controlled Braking Resistor on Transient Stability During Unsuccessful Reclosing," *IEEE Transactions on Power Systems*, Vol. 21, No. 3, pp.1321- 1330, August 2006.
- [29] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Transient Stability Enhancement of Wind Generator by a New Logical Pitch Controller," *IEEJ Transactions on Power and Energy*, Vol.126, No.8, pp. 742-752, August 2006.
- [30] **M. H. Ali**, T. Murata, and J. Tamura, "A Fuzzy Logic-Controlled SMES for Damping Shaft Torsional Oscillations of Synchronous Generator," Letter, *IEEJ Transactions on Electrical and Electronic Engineering, John Wiley & Sons*, Vol.1, pp. 116-120, May 2006.
- [31] **M. H. Ali**, Y. Soma, T. Murata and J. Tamura, "Transient Stability Improvement By Fuzzy Logic Controlled Braking Resistor," *International Journal of Power and Energy Systems*, Vol. 25, No 3, pp. 143-150, October 2005.
- [32] **M. H. Ali**, T. Murata, and J. Tamura, "Determination of Reduced Number and Suitable Locations of Fuzzy Logic Controlled Braking Resistors for Transient Stability Enhancement," *IEEJ Transactions on Power and Energy*, Vol. 125, No. 1, pp. 65-72, January 2005.
- [33] **M. H. Ali**, T. Murata and J. Tamura, "The Effect of Temperature Rise of the Fuzzy Logic Controlled Braking Resistors on Transient Stability," *IEEE Transactions on Power Systems*, Vol. 19, No. 2, pp. 1085-1095, May 2004.
- [34] **M. H. Ali**, T. Murata, and J. Tamura, "An Analysis of the Fuzzy Logic Controlled Braking Resistor for Transient Stability Improvement in Multi-Machine Power System," *IEEJ Transactions on Power and Energy*, Vol. 124, No. 4, pp. 553-560, April 2004.
- [35] **M. H. Ali**, T. Mikami, T. Murata, and J. Tamura, "A Fuzzy Logic Controlled Braking Resistor Scheme for Damping Shaft Torsional Oscillations," *IEEJ Transactions on Power and Energy*, Vol. 124, No. 2, pp. 207-214, February 2004.
- [36] **M. H. Ali**, T. Murata, and J. Tamura, "Braking Resistor Switching By Genetic Algorithm Optimized Fuzzy Logic Controller In Multi-Machine Power System," *IEEJ Transactions on Power and Energy*, Vol.123, No.3, pp.315-323, March 2003.
- [37] **M. H. Ali**, Y. Soma, T. Murata, and J. Tamura, "A Fuzzy Logic Controlled Braking Resistor Scheme For Transient Stability Enhancement," *Transactions of IEE of Japan, Power and Energy Society*, Vol.122-B, No.1, pp.113-120, January 2002.

Papers in International Conference Proceedings (Refereed) [Total 45]

- [1] **M. H. Ali**, Roger Dougal, Bob Hebner, James Langston, Karl Schoder, Mischa Steurer, Mike Andrus, Omar Faruque, and Rob Hovsapiian, "Cross-Platform Validation of Notional Baseline Architecture Models of Naval Electric Ship Power Systems," *Proceedings of the IEEE Electric Ship Technologies Symposium (ESTS) 2011*, pp.78-83, April 10-13, Virginia, USA.

- [2] Y. Zhang, R.A. Dougal, and **M. H. Ali**, "Soft Reclosing of Fault Current Limiters in Electric Ship Power Systems," *Proceedings of the IEEE Electric Ship Technologies Symposium (ESTS) 2011*, pp.244-247, April 10-13, Virginia, USA.
- [3] **M. H. Ali** and R. A. Dougal, "Comparison of SMES and SFCL for Transient Stability Enhancement of Wind Generator System", *Proceedings of the IEEE Energy Conversion Congress and Exposition (ECCE 2010)*, Atlanta, Georgia, USA, September 12-16, 2010, pp. 3382-3387.
- [4] **M. H. Ali**, R. A. Dougal, M. Steurer, L. Graber, J. Ciezki, M. Andrus, D. Infante, Robert Hebner, H. Ouroua, and D. Weeks, "Guidelines for the Specification of Models to be Used in Design-Oriented Simulations," *Proceedings of the International Conference on Grand Challenges in Modeling and Simulation (GCMS 2010)*, Ottawa, Canada, July 11-14, 2010, pp. 367-374.
- [5] **M. H. Ali** and R. A. Dougal, "A Closed-Loop Control Based Braking Resistor for Stabilization of Wind Generator System," *Proceedings of the IEEE SoutheastCon 2010*, March 18-21, 2010, North Carolina, USA, pp. 264-267.
- [6] A. Anwar, **M. H. Ali**, and R. A. Dougal, "Supercapacitor Energy Storage for Low-Voltage Ride Through in a 13.8KV AC System," *Proceedings of the IEEE SoutheastCon 2010*, March 18-21, 2010, North Carolina, USA, pp. 189-192.
- [7] **M. H. Ali** and B. Wu, "Comparison among Stabilization Methods of Fixed-Speed Wind Generator System," *Proceedings of the IEEE Energy Conversion Congress and Exposition (ECCE 2009)*, September 20-24, 2009, San Jose, California, USA, pp. 2667-2674.
- [8] **M. H. Ali**, J. Tamura, and B. Wu, "SMES strategy to Minimize Frequency Fluctuations of Wind Generator System," *Proceedings of the 34th Annual Conference of the IEEE Industrial Electronics Society (IECON 2008)*, 10-13 November 2008, Orlando, Florida, USA, pp. 3382-3387.
- [9] D.-J. Park, Y.-J. Kim, **M. H. Ali**, M. Park, and I.-K. Yu, "RTDS-based Modelling and Analysis of Grid-Connected Fixed Speed Wind Generator System," *Proceedings of the Fourth IASTED Asian Conference on Power and Energy Systems (AsiaPES 2008)*, Paper No. 606-112, pp. 37-41, April 2 – 4, 2008, Langkawi, Malaysia.
- [10] **M. H. Ali**, M. Park, I.-k. Yu, T. Murata, and J. Tamura, "Improvement of Wind Generator Stability by Fuzzy Logic-Controlled SMES," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007, pp. 1753-1758.
- [11] **M. H. Ali**, M. Park, I.-k. Yu, T. Murata, and J. Tamura, "Coordination of Fuzzy Controlled Braking Resistor and Optimal Reclosing for Damping Shaft-Torsional Oscillations of Synchronous Generator," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007, pp. 1259-1264.
- [12] S. M. Muyeen, R. Takahashi, T. Murata, J. Tamura, and **M. H. Ali**, "Stabilization of Wind Farms Connected with Multi-Machine Power System by Using STATCOM/BESS," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007, pp. 232-237.

- [13] S. M. Mueeen, R. Takahashi, T. Murata, J. Tamura, and **M. H. Ali**, "Transient Stability Analysis of Permanent Magnet Variable Speed Synchronous Wind Generator," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007, pp. 288-293.
- [14] S.-J. Lee, H.-Y. Park, G.-H. Kim, H.-R. Seo, **M. H. Ali**, M. Park, and I.-k. Yu, "The Experimental Analysis of the Grid-Connected PV System Applied by POS MPPT," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007.
- [15] D.-J. Park, Y.-J. Kim, **M. H. Ali**, M. Park, and I.-k. Yu, "A Novel Real Time Simulation Method for Grid-Connected Wind Generator System by Using RTDS," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007, pp. 1936-1941.
- [16] H.-R. Seo, **M. H. Ali**, G.-H. Kim, M. Park, and I.-k. Yu, "A study on the Performance Analysis of the Grid-Connected PV-AF System," *Proceeding of the International Conference on Electrical Machines and Systems 2007 (ICEMS 2007)*, Seoul, South Korea, October 08-11, 2007, pp. 371-375.
- [17] **M. H. Ali**, M. Park, and I.-K. Yu, "Minimization of Shaft Torsional Oscillations by Fuzzy Controlled Braking Resistor Considering Communication Delay," *Proceedings of the 7th WSEAS International Conference on Power Systems*, pp. 174-179, Beijing, China, September 15-17, 2007.
- [18] H.-Y. Jung, D.-J. Park, J.-H. Kim, **M. H. Ali**, M. Park, I.-K. Yu, S.-H. Kim, K.-D. Sim, H.-J. Kim, and K.-C. Seong, "A Study of the SMES Model Algorithm in RTDS," *Presented in the IEEE International Conference on Magnet Technology, 2007, Philadelphia, USA*, August 27-31, 2007.
- [19] A.-R. Kim, K.-H. Kim, J.-H. Kim, **M. H. Ali**, M. Park, I.-K. Yu, H.-J. Kim, S.-H. Kim, and K.-C. Seong, "Operational Characteristic of the High Quality Power Conditioner with SMES," *Presented in the IEEE International Conference on Magnet Technology, 2007, Philadelphia, USA*, August 27-31, 2007.
- [20] J.-H. Kim, M. Park, **M. H. Ali**, J. Cho, K. Sim, S. Kim, H.-J. Kim, S. J. Lee, and I.-K. Yu, "Investigation of the Over Current Characteristics of HTS Tapes Considering the Application for HTS Power Device," *Presented in the IEEE International Conference on Magnet Technology, 2007, Philadelphia, USA*, August 27-31, 2007.
- [21] J.-Ho Kim, M. Park, **M. H. Ali**, J. Cho, J.-Y. Yoon, S. R. Lee, and I.-K. Yu, "RTDS Analysis of the Fault Currents Characteristics of HTS Power Cable in Utility Power Network," *Presented in the IEEE International Conference on Magnet Technology, 2007, Philadelphia, USA*, August 27-31, 2007.
- [22] S. M. Mueeen, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Stabilization of Wind Farms Connected with Multi Machine Power System by Using STATCOM," Paper ID: 152, *CD record of the IEEE Power Tech 2007 conference, 1-5 July 2007*, Lausanne, Switzerland.
- [23] S. M. Mueeen, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Wind Generator Output Power Smoothing and Terminal Voltage Regulation by Using STATCOM/ESS, Paper ID: 258, *CD record of the IEEE Power Tech 2007 conference, 1-5 July 2007*, Lausanne, Switzerland.

- [24] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, J. Tamura, Y. Tomaki, A. Sakahara, and E. Sasano, "Blade-Shaft Torsional Oscillation Minimization of Wind Turbine Generator System by Using STATCOM/ESS," Paper ID: 538, *CD record of the IEEE Power Tech 2007 conference, 1-5 July 2007*, Lausanne, Switzerland.
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- [29] S. M. Muyeen, **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Wind Generator Output Power Smoothing by Using Pitch Controller," Ref No. 0076, *CD record of ICEMS (International Conference on Electrical Machines and Systems) 2006, Nagasaki, Japan*, November 20-23, 2006.
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- [2] D. Park, Y. Kim, **M. H. Ali**, M. Park, and I.-K. Yu, "Simulation Method of 3MW Wind Power Generation System Using RTDS", *The Proceedings of the Spring Conference of the Korean Institute of Electrical Engineers, Ulsan Branch, Korea*, May 19, 2007, pp. 213-214.
- [3] **M. H. Ali**, R. Takahashi, T. Murata, and J. Tamura, "Effect of Fuzzy Logic-Controlled SMES on Transient Stability During Unsuccessful Reclosing of Circuit Breakers," *The Proceedings of the Hokkaido Chapters of the Institutes of Electrical and Information Engineers, Japan*, October 28-29, 2006, Paper no. 12, pp. 19-20.
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- [5] **M. H. Ali**, T. Murata, and J. Tamura, "A Comparative Study Between Fuzzy Logic-Controlled Superconducting Magnetic Energy Storage and Braking Resistor", *The Proceedings of the Hokkaido Chapters of the Institutes of Electrical and Information Engineers, Japan*, October 2005, Paper no. 24.
- [6] S. M. Muyeen, **M. H. Ali**, R. Takahashi, Y. Tomaki, A. Sakahara, E. Sasano, T. Murata, and J. Tamura, "Effect of Multi-Mass Shaft Model on Transient Stability Analysis of Wind Turbine Generator System", *The Proceedings of the Hokkaido Chapters of the Institutes of Electrical and Information Engineers, Japan*, October 2005, Paper no. 170.
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- [10] **M. H. Ali**, T. Mikami, T. Murata, and J. Tamura, "A Fuzzy Logic Controlled Braking Resistor Scheme

- for Damping Shaft Torsional Oscillations,” *Proceedings of the Fourteenth Annual Conference of Power & Energy Society, IEE of Japan*, Volume A, August 2003, pp. 64-69.
- [11] **M. H. Ali**, T. Murata, and J. Tamura, “An Analysis of The Fuzzy Logic Controlled Braking Resistor For Transient Stability Improvement In Multi-Machine Power System,” *Proceedings of the Fourteenth Annual Conference of Power & Energy Society, IEE of Japan*, Volume A, August 2003, pp. 58-63.
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- [20] **M. H. Ali**, T. Funamoto, M. Yagami, T. Murata, and J. Tamura, “Study of Power System Stabilization by Fuzzy Logic Controlled Braking Resistor,” *The Proceedings of the Hokkaido Chapters of the Institutes of Electrical and Information Engineers, Japan*, October 1999, pp. 108-109.

ESRDC (Electric Ship Research and Development Consortium) Annual Meeting Presentations (Poster & Oral)

- [1] H. Zheng, **M. H. Ali**, and R. A. Dougal, “Transient Stability Characteristic as a Function of Power System Frequency”, Virginia, April 2011.
- [2] Dan Li, **M. H. Ali**, and R. A. Dougal, “Coordination of Fuel Feed, Field Excitation and Rectifier Control for Maximally Efficient DC Power Generation”, Virginia, April 2011.
- [3] H. Zheng, **M. H. Ali**, and R. A. Dougal, “Variable Frequency AC Power Systems”, Columbia, June 2010.
- [4] A. Anwar, **M. H. Ali**, and R. A. Dougal, “Supercapacitor Energy Storage for Low-Voltage Ride Through in a 13.8KV AC System”, Columbia, June 2010.

Working in Funded Research Projects

- [1] Baseline Models Development for Electric Ship Power Systems [USC].
- [2] LEDAR (Laboratory for Electric Drive and Application Research) Wind-Tech Project [Canada].
- [3] Fuzzy Logic-Controlled Superconductive Magnetic Energy Storage (SMES) for Wind Generator Stabilization (obtained about 12.5 million Japanese Yen research grant from JSPS) [Japan].

Advising Students’ Projects

- [1] Transient Stability of Higher Frequency Generator Systems –Ph.D. [USC].
- [2] Coordination of Fuel Feed, Field Excitation and Rectifier Control for Maximally Efficient DC Power Generation–Ph.D. [USC].
- [3] Supercapacitor Energy Storage System–Ph.D. [USC].
- [4] Modeling of Fuel Cell Systems–Ph.D. [USC].
- [5] Green Power Node Analysis–M.Sc. [USC].

Some Service Experience

- [1] **Advisory Committee Member**
Ph.D. degree, Dept. of Electrical Engineering, USC, 2009-2010 (Candidate-Yucheng Zhang, Thesis title: Specification, Placement, and Control of Fault Current Limiters in Power Systems).
- [2] **Course Coordinator**
Undergraduate EEE Program, RUET, Bangladesh, April 2004-November 2004.
- [3] **Treasurer**
EEE Society and Central Students Union, RUET, Bangladesh, 1996-1998.

Other Skills and Information

- [1] **Software Knowledge**
MATLAB/SIMULINK, ATP/EMTP, PSCAD/EMTDC, VTB, C++, FORTRAN, Microsoft Word, Microsoft Power Point, Excel, and Microcal Origin.

[2] **Industrial Training**

30 Days' industrial training taken in Regional Training Centre of Bangladesh Power Development Board (BPDB), Rajshahi, Bangladesh, at the end of 3rd year and 4th year of B.Sc. Engineering studies.

[3] **Languages Known**

English, Bangla, Japanese.

[4] **Countries Visited**

USA, Canada, Korea, Japan, Finland, Belgium, Russia, Malaysia, Greece, China.

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