

RESUME

DR. SAMIR A. AL-BAIYAT

Professor of Electrical Engineering
Dean, College of Engineering Sciences &
Acting Dean, College of Applied Engineering

King Fahd University of Petroleum & Minerals
Dhahran, Saudi Arabia

November 2007

1. SUMMARY OF EXPERIENCE RECORD

1.1 Personal Data

- NAME: Dr. Samir Alwan Al-Baiyat
- NATIONALITY: Saudi Arabian
- DATE OF BIRTH: 13-02-1956
- EMPLOYER: King Fahd University of Petroleum & Minerals
- DEPARTMENT: Electrical Engineering
- MARITAL STATUS: Married, with four children

1.2 Educational Background

- Ph.D. (Electrical Engineering), University of Notre Dame, USA, May 1986.
- M.S. (Electrical Engineering), King Fahd University of Petroleum and Minerals, Saudi Arabia, October 1979.
- B.S. (Electrical Engineering), King Fahd University of Petroleum and Minerals, Saudi Arabia, June 1977.

1.3 Positions Held

- Professor, EE Dept., April 2005 – Present
- Associate Professor, EE Dept., January 1994 – April 2005.
- Assistant Professor, EE Dept., 1986 – January 1994.
- Graduate Assistant, Electrical and Computer Engineering Dept., University of Notre Dame, August 1985 - May 1986.
- Lecturer, EE Dept. KFUPM, October 1979 - August 1980.
- Graduate Assistant, EE Dept. KFUPM, June 1977 - October 1979.

1.4 Professional Experience

- Summer Student, Saudi ARAMCO, Dhahran, Summer of 1976.
- Power System Engineer, Saudi ARAMCO, Dhahran, Summer of 1977.
- Control Engineer, Saudi ARAMCO, Dhahran, Summer of 1981.
- System Analyst, Saudi ARAMCO, Dhahran, Summer of 1987.

1.5 Administrative Positions:

- a. Dean, College of Engineering Sciences, March 2002 – Present

- b. Acting Dean, College of Applied Engineering, March 2002 – Present
- c. Director of the University Summer Program, Summer 2007.
- d. Director of the University Summer Program, Summer 2006.
- e. Chairman, Electrical Engineering Department, September 1995- March 2002
- f. Chairman, Electrical Engineering Department, Summer 1995.
- g. Chairman, Electrical Engineering Department, Summer 1994.
- h. Chairman, Electrical Engineering Department, Summer 1991.
- i. Chairman, Electrical Engineering Department, Summer 1989.

1.6 Professional Societies

- Member of the Institute of Electrical and Electronic Engineers (IEEE).
- Vice Chairman of IEEE Saudi Arabia Section 1995 – 1997.
- Chairman of IEEE Saudi Arabia Section 1997 – 2002
- Past Chairman of IEEE Saudi Arabia Section 2002 –
- Member of Electrical and Electronics Council in the Engineering Committee 1995- 1998.
- Chairman of the Board of the Saudi Scientific Society of Electrical Engineers 2003 -

1.7 Awards and Recognition

- Prince Mohammad Bin Fahd Prize for Applied Research, 1995-96, "Feasibility Study Electrical Network Interconnection of Mashreq Arab Countries" Submitted to the Arab Fund for Economic and Social Development, Kuwait, 1992.
- IEEE Third Millennium Medal: The IEEE Headquarters (USA), in celebration of the third millennium, gives award. It honors members for their outstanding contribution to the IEEE activities.
- IEEE Services Recognition: The IEEE Headquarters (USA), in recognition for services and contributions towards the advancement of IEEE and the Engineering profession. In an honor for chairing the Saudi Arabia Section for the period 1997 – 2001.

2. TEACHING EXPERIENCE

2.1 Courses Taught

Since 1986, I have taught and coordinated various EE courses. The following table gives a detailed summary of the courses that I have taught during my stay at KFUPM including the student's evaluation.

Semester	Course Number	Course Name
861	EE 201	Electric Circuit I
861	EE 204	Circuits and Electronics
862	EE 201	Electric Circuit I
862	EE 201	Electric Circuit I
871	EE 201	Electric Circuit I
871	EE 380	Control Engineering
872	EE 380	Control Engineering
872	EE 380	Control Engineering
873	EE 204	Circuits and Electronics
881	EE 202	Network Theory
881	EE 550	Introduction to Modern Control
882	EE 202	Network Theory
882	EE 204	Circuits and Electronics
891	EE 201	Electric Circuit I
891	EE 380	Control Engineering
892	EE 201	Electric Circuit I
892	EE 380	Control Engineering
901	EE 201	Electric Circuit I
901	EE 481	Modeling and Simulation
902	EE 201	Electric Circuit I
902	EE 360	Electric Energy Engineering
911	EE 360	Electric Energy Engineering
911	EE 550	Introduction to Modern Control
912	EE 201	Electric Circuit I
912	EE 360	Electric Energy Engineering
913	EE 360	Electric Energy Engineering
921	EE 360	Electric Energy Engineering
921	EE 380	Control Engineering
922	EE 360	Electric Energy Engineering
922	EE 550	Introduction to Modern Control
931	EE 360	Electric Energy Engineering
931	EE 406	Signal Processing
932	EE 360	Electric Energy Engineering
932	EE 380	Control Engineering
931	EE 360	Electric Energy Engineering
941	EE 201	Electric Circuit I
941	EE 380	Control Engineering
942	EE 380	Control Engineering

942	EE 550	Introduction to Modern Control
943	EE 201	Electric Circuit I
951	EE 380	Control Engineering
953	EE 360	Electric Energy Engineering
961	EE 380	Control Engineering
971	EE 380	Control Engineering
981	EE 380	Control Engineering
992	EE 550	Introduction to Modern Control
002	EE 380	Control Engineering
012	EE 550	Introduction to Modern Control
022	EE 550	Linear Control Systems
032	EE 550	Linear Control Systems
042	EE 550	Linear Control System
052	EE 550	Linear Control System
062	EE 550	Linear Control System

2.2 Capstone Projects, Co-op Training and Summer Training Reports:

I have supervised and examined many senior projects and Co-op students. Also, evaluated a number of summer training reports.

2.4 Curriculum Development:

Since joining the Electrical Engineering Department in 1986, I was greatly involved in the curriculum development, specifically in the areas of circuits and control systems where I contributed to a number of courses. These include, but not limited to, the following courses:

- EE 201
- EE 205
- EE 207
- EE 380
- EE 402
- EE 432
- EE 550

In the circuit courses (201, 205, 207) I helped in restructuring EE 201 and in introducing EE 205 and 207 in 1997 as part of redesigning the circuit area in EE curriculum. Moreover I have revised some of the LAB experiments for EE 201. I have also initiated the purchase and acquisition of many laboratory equipments and components.

In the control group I have contributed in particular to courses EE 380 and EE 550. In the course EE 380 I have modified the course and its materials and currently I am part of a team working in a project to put the course online. I also helped in procuring many laboratory equipments and their components. As far as EE 550, I have taught the course many times and restructured it. I also introduced the use of computer software in the course. While for the rest of the control courses, I was part of the control group during the revision of the curriculum.

2.5 Seminars

1. "Volterra Models in Nonlinear Control Design", International Symposium on Mathematics of Network and Systems, Phoenix, USA, 1987.
2. "Technology Versus Engineering Programs", Riyadh, 1996.
3. "Active and Reactive Power Control of SMES for Stability Improvement" Cambridge, Massachusetts, USA, 1996.
4. "Engineering Programs Evaluation: KFUPM Experience", Symposium on the Development & Enhancement of Engineering Education, Bahrain, February 24-25, 2004.
5. "Incorporating Industry Needs in Applied Engineering Programs", the 11TH IEEE TECHNICAL EXCHANGE MEETING, Dhahran, Saudi Arabia, April 14, 2004.
6. "Industrial Advisory Committee – KFUPM Experience", Work Shop on Means to Implement the Document of Views of HRH Prince Abdullah Bin Abdul Azziz on Higher Education, Jeddah , Saudi Arabia, February 15 - 16 , 2005.
7. "Cooperative Education Experience at King Fahd University of Petroleum & Minerals", the 14th World Conference on Cooperative Education, Boston, USA, June 14 – 17, 2005.

2.6 M.S. Thesis Supervisory Committee Memberships

Sr. #	Student Name	Thesis Title	Role	Date of Thesis Completion
1	Fathi A. Abu Al-Saud	Design of State Feedback Control Laws Based on Reduced Order Models	M	June 1990
2	Hussain Al-Duwaish	H_{∞} State-Feedback with Closed-Loop Transfer Recovery H_{∞} /CLTR) Design	M	July 1991

		Method		
3	Mir Mujahid Ali	Identification of Coherent Generators for Power System Dynamic Equivalents Using Linear Trajectory	M	April 1993
4	Majid Jafar Al-Majid	Method of Lines Analysis of Gaussian Beam Coupling to Dielectric Slab Waveguide	M	February 1994
5	Ali Saud Al-Ahmadi	Digital Filter Design by Approximate Time Domain Modeling	M	June 1993
6	Samir Zain Alddin	A Neural Network Approach for Load		June 1994
7	Khaled A.S. Al-Sahli	A Neural Network Approach to Feedback Linearization	M	March 1995
8	Hedaia M. Al-Asooly (University of Bahrain)	Active and Reactive Power Control of SMES Unites For Power System Transient Improvement	E	June 1995
9	Haitham Fahmi Tayyar	A New Model Reduction Scheme for Linear Time-Invariant Systems with Polynomial Inputs	M	April 1997
10	Mohammad Shoaib	Fuzzy Logic Controller for Power System Stability	M	June 1997
11	Jaafar A. Al-Sheef	Evaluation of Electromagnetic Transient on a Distribution System Using EMTP	M	June 1998
12	Mohamed Al-Farag	Shielding by Active and Passive Systems for High Voltage AC Transmission Lines	M	May 1999
13	Wasif Naeem	Nonlinear Predictive Control Using Genetic Algorithms	M	May 2001
14	Muhammad Moinuddin	Normalized Time Varying Mixed Norm LMS-LMF Adaptive Algorithms	M	May 2001
15	Shiraz Ahmad	Closed Loop Identification for Model Predictive Control	M	Oct 2003
16	Ali Taleb Al-Awami	Design of Robust PSS and FACTS-based Controllers for Stability Enhancement of Power Systems	M	June 2004
17	Naji A. AL-Musabi	Design of Optimal Variable Structure Controller: Applications to Power System Dynamic	M	June 2004
18	Mohammed B. Abbas	On-line Identification and Control of Power System with STATCOM	CO	Sept 2005
19	Syed F. Faisal	Damping Enhancement of a Multimachine Power System through STATCOM Control	M	April 2005
20	Mohammed M A Baig	Optimization of Ideal Reactive Distillation Column Using HYBRID PSO Algorithm	M	January 2006
21	Syed Saad Azhar Ali	U-Model Based Multivariable Nonlinear Adaptive Control (Ph.D)	M	January 2007
22	Ali Ahmed Al-Matouq	Control Loop Performance Benchmarking of an NGL Plant Using	M	May 2007

	Achievable PID Bounds		
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M: Member, CO: Co advisor, E: External Examiner

2.7 Short Courses Participation:

1. Industrial Power System Analysis Using Personal Computers, February 11 - 15, 1989.
2. Industrial Power System Analysis Using Personal Computers May 12 -16, 1990.
3. Electrical Engineering for Non-Electrical Engineers May 16 20, 1992.
4. Electrical Engineering for Non-Electrical Engineers, December 3 - 7, 1994.

3. RESEARCH

3.1 Papers in Referred Journals

- [J1] **Al-Baiyat, S. A.**, and Rahim, A.H.M.A., “Dynamic Braking Resistor-Reactor Switching Strategies Through a Novel Linear Transformation Technique”, *Electric Machines and Power Systems*, 21 (1993), pp. 543-555.
- [J2] **Al-Baiyat, S. A.**, Farag, A. S., and Bettayeb, M., “Transient Approximation of a Bilinear Two-Area Interconnected Power System”, *Electric Power Systems Research* 26 (1993), pp. 11-19.
- [J3] **Al-Baiyat, S. A.**, Bettayeb, M., and Al-Saggaf, U. M., “New Model Reduction Scheme for Bilinear Systems”, *International Journal of Systems Science* 25 (1994), pp. 1631 - 1642.
- [J4] **Al-Baiyat, S. A.**, and Bettayeb, M., “Application of Recent Model Reduction Techniques to Nuclear Reactors”, *International Journal of Modeling and Simulation* 14 (1994), pp. 65 - 69.
- [J5] El-Amin, I.M., Al-Shehri, A. M., Opoku, G. **Al-Baiyat, S. A.**, and Zedan, F., “Electric Network Interconnection of Mashreq Arab Countries”, *IEEE Power Engineering Review*, (1994), pp.26-28
- [J6] Al-Shehri, A. M., El-Amin, I.M. Opoku, G, **Al-Baiyat, S. A.**, and Zedan, F., “Mashreq Arab Interconnected Power System Potential for Economic Energy Trading”, *IEEE Power Engineering Review*, (1994), pp. 28-30.
- [J7] Farag, A., **Al-Baiyat, S.**, and Cheng, T.C., “Economic Load Dispatch Multiobjective Optimization Procedures Using Linear Programming Techniques”, *IEEE Trans. on Power Systems*, Vol. 10, No. 2, (1995), pp. 731-738.
- [J8] Farag, A.S., and **Al-Baiyat, S. A.**, “Optimal Design of Power Systems Under Constraints of Reliability and Cost”, *Energy Convers. Mgmt.* Vol. 38, No. 7, (1997), pp. 637-645.
- [J9] Abdel-Magid, Y. L., Abido, M.A., **Al-Baiyat, S. A.**, and Mantawy, A. H., “Simultaneous Stabilization of Multimachine Power Systems via Genetic Algorithms” *IEEE Trans. On Power Systems*, Vol. 14, No. 4, (1999), pp. 1428-1437.
- [J10] Rahim, A.H.M.A., and **Al-Baiyat, S. A.**, “Dynamic Brake Switching Strategies for Stabilization of Power Systems Using Artificial Neural Networks”, *Expert Systems with Applications* Vol. 18, (2000), pp. 101 – 109.

- [J11] Rahim, A.H.M.A., Nowicki, E. P., and **Al-Baiyat, S. A.**, “Damping Electromechanical Oscillations of a Power System with SMES”, *International Journal of Power and Energy Systems*, Vol. 20, No. 3, (2000), pp.123 – 130.
- [J12] Rahim, A.H.M.A., Bakhshwain, J. M., and **Al-Baiyat, S. A.**, “Centralized and Decentralized Training Strategies of Artificial Neural Networks for Transient Stability Assessment”, *Association for the advancement of Modeling & Simulation techniques in Enterprises (A.M.S.E.)*, Vol. 43, No 3,4, (2000), pp. 15-30.
- [J13] Rahim, A.H.M.A., **Al-Baiyat, S. A.**, and Al-Maghrabi, H. M., “Robust Damping Controller Design for a Static Compensator”, *IEE Proc.-Gener. Transm. Distrib.*, Vol. 149, No. 4, (2002), pp. 491 – 496.
- [J14] **Al-Baiyat, S. A.**, “Model Reduction of Bilinear Systems Described by Input-Output Difference Equation”, *International Journal of Systems Sciences* Vol. 35, No. 9, (2004), pp. 503 – 510.
- [J15] **Al-Baiyat, S. A.**, “Design of a Robust SVC Damping Controller Using Nonlinear H_∞ Technique”, *Arabian Journal for Science and Engineering*, Vol. 30. No. 1B, (2005), pp. 65-80.
- [J16] **Al-Baiyat, S. A.**, “Power System Transient Stability Enhancement by STATCOM with Nonlinear H_∞ Stabilizer”, *Electric Power Systems Research*, Vol. 73, No. 1, (2005), pp. 43 – 52.
- [J17] Z. Al-Hamouz, N. Al-Musabi, H. Al-Duwaish and **S. Al-Baiyat**, “On the Design of Variable Structure Load Frequency Controllers by Tabu Search Algorithm: Application to Nonlinear Interconnected Models”, *Electric Power Components and Systems*, Vol. 33, No. 11, November 2005, pp. 1253-1267.
- [J18] **Al-Baiyat S.A.**, and Rahim A.H.M.A., “Design of a Roubst Fixed-Parametr SVC Damping Controller through Graphical Loop-Shaping Technique”, *AMSE Journal on Advances in Modeling and Analysis, Series C*, Vol. 60, no. 5, pp. 43-58, 2005.
- [J19] Rahim A.H.M.A., and **Al-Baiyat S. A.**, "On-Line Identification And Control Through Series Converter Voltage Of A Unified Power Flowcontrolle", *The Mediterranean Journal of Measurement and Control*, Vol. 2, No. 3, 2006, pp 113-118, July 2006.
- [J20] Rahim A.H.M.A., Bakhshwain J. M., and **Al-Baiyat S. A.**, "Robust Damping Controls for a Unified Power Flow Controller," *International Journal of Emerging Electric Power Systems*, Vol. 6: No. 2, August 2006.

3.2 Papers in Conferences

- [C1] Farag, A., and El-Baiyat, S., “Interactive Short-Circuit Program for 1000 Buses and 1000 Lines”, ASME Proceedings on Advances in Computer Technology, 1980, Volume 1, pp. 135-144, San Francisco, USA.
- [C2] **Al-Baiyat, S. A.**, and Sain, Michael K., “An Application of Volterra Series to the Design of Nonlinear Feedback Controls”, Proceedings of the Twenty-Third Annual Allerton Conference on Communication, Control, and Computing, (1985), pp. 103-112 Monticello, Illinois, USA.
- [C3] **Al-Baiyat, S. A.**, and Sain, Michael K., “A History of Inverse Properties in System Models”, Proceedings of the Sixteenth Annual Pittsburgh Conference on Modeling and Simulation, (1985), pp. 495-499, Pittsburgh, USA
- [C4] **Al-Baiyat, S. A.**, and Sain, Michael K., “Control Design with Transfer Functions Associated to Higher Order Volterra Kernels”, Proceedings of the 25th IEEE Conference on Decision and Control, (1986), pp. 1306 - 1311, Athens, Greece.
- [C5] **Al-Baiyat, S. A.**, and Sain, Michael K., “A Volterra Method for Nonlinear Control Design”, Preprints IFAC Symposium on Nonlinear Control System Design, (1989), pp. 125 - 130, Capri, Italy.
- [C6] **Al-Baiyat, S. A.**, and Rahim, A. H. M. A, “Design of a Controller for Transient Stability Augmentation of Power Systems”, Proceedings of Middle East Power System Conference, (1989), pp. 282 - 285, Cairo, Egypt.
- [C7] Al-Ali, A. R., Alakhdar, S. Z., and **Al-Baiyat, S.**, “Neural Network Implementation Using Microprocessor-Based Systems”, Proceedings of the Second International Conference on Automation, Robotics and Computer Vision, (1992), pp. NW-1.5.1-3, Singapore.
- [C8] **Al-Baiyat, S. A.**, and Bettayeb, M., “A New Model Reduction Scheme for K-Power Bilinear Systems”, Proceedings of the 32nd IEEE Conference on Decision and Control, (1993), pp. 22 - 27, San Antonio, Texas, USA.
- [C9] Al-Shehri A. El-Amin I. M., **Al-Baiyat, S. A.**, Opoku, G., Abdul-Majeed, M. A., and Zedan, F., “Opportunities for Electric Energy Trading in the Mashreq Arab Countries”, Proceedings of CIGRE First

Regional Meeting of Arab Region, Cairo, Paper # 2, January 21-23, 1995.

- [C10] Bettayeb, M., Bakri, T., Clarke, D. J., and **Al-Baiyat, S. A.**, “Future Perspectives of Distributed Control Systems Software for the Process Industry”, Proceeding of the fourth Saudi Engineering Conference, Vol. III, pp. 167-174, Jeddah, November 1995.
- [C11] Rashid, M. H., **Al-Baiyat, S. A.**, Abulhamayel, H. I., Al-Nafa, M., and Al-Alwani, J., “Criteria for Accrediting Programs in Engineering Technology”, Proceedings on the Role of Technical Colleges in Man Power Development, April 28-29, 1996, Riyadh.
- [C12] Rashid, M. H., **Al-Baiyat, S. A.**, Abulhamayel, H. I., and Al-Nafa, M., “Technology Versus Engineering Programs”, Proceedings on the Role of Technical Colleges in Man Power Development, April 28-29, 1996, Riyadh.
- [C13] Rahim, A.H.M.A., and **Al-Baiyat, S. A.**, “Control of Power Oscillations with Superconducting Magnetic Energy Storage Systems”, Proceedings of the 11th International Conference on Systems Engineering, University of Nevada, Las Vegas, pp. 336- 341, July 1996.
- [C14] Rahim, A.H.M.A., **Al-Baiyat, S. A.**, and Asooly, H.M, “Active and Reactive Power Control of SMES for Stability Improvement”, Proceedings of the 28th Annual North American Power Symposium, November 1996, pp. 459-465, Cambridge, Massachusetts, USA.
- [C15] Rashid, M. H., and **Al-Baiyat, S. A.**, “Power Electronics Laboratory Using PSpice”, Proceeding of the Frontiers in Education Conference, 1996. FIE '96. 26th Annual Conference., pp. 534-537, Salt Lake City, USA, November 1996.
- [C16] Rahim, A.H.M.A., and **Al-Baiyat, S. A.**, “Centralized and decentralized Training Strategies of BP and RBF Neural Networks for Transient Stability Assessment”, IASTED INTL. Conf. On Modeling & Simulation, Banff, Canada, pp. 40-43, July 1997.
- [C17] Shwehdi, M. H., Bakhshwain, J. M., and **Al-Baiyat, S. A.**, “Design and Development of a New Power Line Data Communication Interface”, Proceeding of 33rd Intersociety Energy Conversion Engineering Conference (IECEC), August 2-6, 1998, Colorado Spring, Co, USA.
- [C18] Al-Ali, A. R., and **Al-Baiyat, S. A.**, “Year 2000 Problem in Process Control and Automation, Saudi Second National Symposium on Y2K, Jubail Industrial City, September 1998.
- [C19] Rahim, A.H.M.A., **Al-Baiyat, S. A.**, and Kandlawala, F. M. “A Robust STATCOM Controller for Power Dynamic Performance

Enhancement”, Proceeding of the 2001 IEEE Power System Engineering Society Summer Meeting, Vancouver, Canada, pp. 887-892, July 2001.

- [C20] **Al-Baiyat, S. A.**, “Model Reduction Scheme of State-Affine Systems”, Proceedings of the 14th International Conference on Computer Applications in Industry and Engineering (CAINE-2001), Las Vegas, Nevada, USA, pp. 262-267, November 2001.
- [C21] Rahim, A.H.M.A., and **Al-Baiyat, S. A.**, “Damping of Power System Sub-Synchronous Resonance Oscillations through Fuzzy-Logic Dynamic Brake Control,” Proceedings of Second International Conference on Electrical and Computer Engineering (ICECE 2002), Dhaka, pp. 20 -23, December 2002.
- [C22] Rahim, A.H.M.A., **Al-Baiyat, S. A.**, and Kandlawala, F. M. “Parallel FACTS Devices for Power System Stability Enhancement”, Proceeding of the 1st IEEE GCC Conference, Bahrain, Article # 42, May 13-15, 2003.
- [C23] Rahim, A.H.M.A. and **Al-Baiyat, S. A.**, “A Robust Design of a Static VAR Compensator Controller for Power System Stability Improvement”, Proc. of the Summer Computer Simulation Conference (SCSC’03), pp. 107-112, Montreal, Canada, July 2003.
- [C24] Al-Musabi, N. A., Al-Hamouz, Z. M., Al-Duwaish, H. N., and **Al-Baiyat, S. A.**, “Variable Structure Load Frequency Controller Using Particle Swarm Optimization Technique”, Proceedings of the 2003 10th IEEE International Conference on Electronics, Circuits and Systems, Vol. 1, pp. 380-383, Sharjah, United Arab Emirates, December 2003.
- [C25] Naji A. Al-Musabi, H. N. Al-Duwaish, Z. M. Al-Hamouz, **Samir Al-Baiyat**, “Variable Structure Load Frequency Controller: Optimal Design and Chattering Reduction Using Particle Swarm Optimization Algorithm”, OPTIM’04, Brasov, Romania, May 2004.
- [C26] Al-Musabi, N. A., Al-Duwaish, H. N., Al-Hamouz, Z. M., and **Al-Baiyat, S. A.**, “Optimal Design of Variable Structure Load Frequency Controller with Nonlinearities using TABU Search Algorithm”, 1st International Conference on Informatics in Control, Automation and Robotics (ICINCO 2004) , Setubal, Portugal, August 2004.
- [C27] Rahim A.H.M.A., and **Al-Baiyat, S.A.**, “A Robust Damping Controller Design for a Unified Power Flow Controller”, Proc. 39th Universities Power Engineering Conference, Bristol, UK, September, 2004 .
- [C28] Rahim, A.H.M.A., **Al-Baiyat, S.A.** and Kandlawala, M. F., “A Fuzzy STATCOM Control for Power System Damping Enhancement”, Proceedings of the 2nd IEEE GCC Conference, pp. 1-5, Bahrain, November 2004.

- [C29] Otaru, M. U, Al-Musabi, N. A., and **Al-Baiyat, S. A.**, “Robust PID Stabilizer Design Using Genetic Algorithms”, Proceedings of the 2nd IEEE GCC Conference, pp. 33-36 , Bahrain, November 2004.
- [C30] **Al-Baiyat, S.A.**, Abuelma'atti, M.T., El-Suwailem, O.A., Budaiwi, I.M., Said S.A.M., and Abd El-Barr M.I., “Cooperative Education Experience at King Fahd University of Petroleum & Minerals”, Proceeding of the 14th World Conference on Cooperative Education, Boston, USA, June 2005.
- [C31] Rahim A.H.M.A., and **Al-Baiyat S. A.**, "Adaptive Stabilizing Control of Power System through Series Voltage Control of a Unified Power Flow Controller", Summer Computer Simulation Conference, SCSC'06, pp. 251-256, ISBN 1-56555-307-1, Calgary, July/Aug 2006.

3.2 KFUPM Funded Research Projects:

Robust Shunt Connected FACT Devices for Power System Damping Improvements **December 2002 - , Role CI**
Principle Investigator: Rahim, A.H.M.A.

3.3 Externally Funded Projects

- 1. “Feasibility Study of Electrical Network Interconnection of Mashreq Arab Countries”, Funded by Arab Fund for Economic and Social Development, September 1989 - June 1992. Role: CI
Project Manager: Dr. Abdullah Al-Shehri**

- 2. “Evaluation of Energy Trading Benefits Within Some Mashreq Arab Countries”, Funded by Arab Fund for Economic and Social Development, Duration: 20 Months, November 1992 - March 1995. Role: CI
Project Manager: Dr. Abdullah Al-Shehri**

- 3. “Utilization of Peak and Off-Peak Electricity Prices”, On-going Funded by Saudi Electricity Company, Role: CI
Project Manager: Dr. Ibrahim El-Amin**

- 4. “Study for Developing Academic Programs for King Fahd Naval Academy”, Funded by King Fahd Naval Academy, April 2004 - . Role: CI
Project Manager: Dr. Ali Shash**

4. PROFESSIONAL ACTIVITIES

4.1 Conference Organization

1. Chairman of the organizing committee of the workshop "Selected Topics in Optical Electronics", KFUPM, October 26, 1996.
2. Chairman of the organizing committee of the workshop "Fuzzy Logic and Its Applications", KFUPM, Dhahran, December 15, 1996.
3. Member of the organizing committee of the workshop, "Electrical Energy Conservation and Load Management", KACST, Riyadh, May 6-7, 1997.
4. Vice Chairman of the organizing committee of the, "4th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, May 20-21, 1997.
5. Chairman of the organizing committee of the, "5th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, May 19-20, 1998.
6. Organizer and KFUPM Representative for the 1999 Bell Labs Technology Seminar, KFUPM, Dhahran, February 16-17, 1999.
7. Chairman of a Technical Session in the Fifth Saudi Engineering Conference, Makkah, March 1-4, 1999.
8. Chairman of the organizing committee of the, "6th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, April 20-21, 1999.
9. Member of the organizing committee of the Forth Gulf Engineering Conference, Riyadh, February 16-17, 2000.
10. Chairman of a Technical Session in the Forth Gulf Engineering Conference, Riyadh, February 16-17, 2000.
11. Chairman of the organizing committee of the, "7th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, April 18-19, 2000.
12. Chairman of the organizing committee of the, "8th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, April 17-18, 2001.
13. Chairman of the organizing committee of the, "8th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, April 17-18, 2002.
14. Chairman of the Scientific Committee, the 6th Saudi Engineering Conference, Dhahran, 14-17 December 2002.
15. Chairman of the organizing committee of the, "10th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, March 23-24, 2003.

16. General Vice Chair of the International Symposium on Wireless Systems and Network (ISWSN'03), KFUPM, Dhahran, March 25-26, 2003
17. Member of the Organizing Committee of the First GCC Conference on Industrial, Electrical and Electronic Conference, Bahrain, May 6-7, 2003.
18. Vice Chairman of the organizing committee of the, "11th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, April 24-26, 2004.
19. Member of the Steering Committee of the 2nd IEEE GCC Conference, Bahrain, November 23-25, 2004.
20. Vice Chairman of the organizing committee of the, "12th Annual IEEE Technical Exchange Meeting", KFUPM, Dhahran, May 16 - 18, 2005.
21. Chairman of the Technical Committee and Member of the Steering Committee of the 3rd IEEE GCC Conference, Bahrain, January 22 - 25, 2006.
22. Member of the Steering Committee of the 4th IEEE GCC Conference, Bahrain, November 11-14, 2007.
23. Member of the Steering Committee of the 7th Saudi Engineering Conference, Riyadh, 24-27 November 2007.

4.2 Review Activities

I have reviewed the following articles:

1. "Direct Jordan Form Realization of Multivariable Transfer Functions", for the IEEE Transaction on Education (1984).
2. "Realization of Polynomic Systems with Linear Dynamics", for the IEEE Transaction on Automatic Control (1985).
3. Revised version of paper no. 2 for the IEEE Transaction on Automatic Control (1985).
4. "Multiple Regression Analysis of Electricity Demand in Australia", for the Arabian Journal for Science and Engineering (1990).
5. "Hierarchical Solution of Complex Power Flow Problems", for the Arabian Journal for Science and Engineering (1991).
6. Revised version of paper no. 5 for the Arabian Journal for Science and Engineering (1991).

7. "Modeling and Self-Tuning Control of a Large-Volume Periodic Shuttle Kiln with Nonlinearity and Distributed Parameters", for the International Journal of Modeling and Simulation, 1993.
8. "A Reduction Based PDF Controller Design Algorithm for a Class of Plant Model", 32nd IEEE Conference on Decision and Control, 1993.
9. "The Optimal Decentralized Adaptive Control for Load-Frequency of Interconnected Power Systems", for the Arabian Journal for Science and Engineering July 1996.
10. "Self-Tuning Multivariable Minimum Variance Controller for Turbogenerator", for the Arabian Journal for Science and Engineering December 1996.
11. Revised a paper entitled "On H₂ Model Reduction of Bilinear Systems" to the journal AUTOMATICA, May 2001
12. "Student Design Projects in King Abdul Aziz University for Power Engineers", for the Journal of King Saud University, May 2, 2003.
13. "Field Weakening Nonlinear Control of a Separately Excited DC Motor", for 10th IEEE International Conference on Electronics, Circuits and Systems, Sharjah, United Arab Emirates, December 2003.
14. "Study of Parameter Effect on Surge Arresters Used in Medium and High Voltage Networks", for the Journal of Umm Al-Qura University, 2004.
15. "Coordinated Generic Fuzzy Logic Control for Static VAR Compensator to Enhance Damping Power System Oscillations", for the Journal of King Abdulaziz University, October 2004.
16. "A Self-Organizing Neural Fuzzy Controller for Dynamic Braking Resistor" for the International Journal of System Science, March 2005.

I have also reviewed the following three research proposals:

1. "Robust Model Reduction of Stochastic Systems", for King Abdulaziz University (1987).
2. "Optimal LQR Output Feedback for Discrete Systems Using Non-standard PI", for the Graduate School of KFUPM, 1993.
3. "Efficient Power-Injection Meter Treatments of Two-Level Power System State Estimation Approach", for the Graduate School of KFUPM, 1994.

5. UNIVERSITY, DEPARTMENTAL AND PUBLIC SERVICE

5.1 Administrative Positions

1. Dean, College of Engineering Sciences, March 2002 – Present
2. Acting Dean, College of Applied Engineering, March 2002 – Present.
3. Chairman, Electrical Engineering Department, September 1995 –
March 2002
4. Chairman, Electrical Engineering Department, Summer 1995
5. Chairman, Electrical Engineering Department, Summer 1994
6. Chairman, Electrical Engineering Department, Summer 1991
7. Chairman, Electrical Engineering Department, Summer 1989.

5.2 Participation in University Standing Committees

	Committee Name	Year	Role
1.	The Library Committee	1986-1987	Member
2.	The Library Committee	1988-1989	Deputy Chairman
3.	The Library Committee	1989-1990	Chairman
4.	The Library Acquisition Committee	1989-1990	Member
5.	The Library Committee	1990-1991	Chairman
6.	The Library Acquisition Committee	1991-1992	Member
7.	The Library Committee	1992-1993	Chairman
8.	The Library Acquisition Committee	1992-1993	Member
9.	The Library Committee	1993-1994	Chairman
10.	The Library Acquisition Committee	1993-1994	Member
11.	The Graduate Council Committee	1995-1996	Member
12.	The Graduate Council Committee	1996-1997	Member
13.	The Graduate Council Committee	1997-1998	Member
14.	The Graduate Council Committee	1998-1999	Member
13.	The Graduate Council Committee	1999-2000	Member
14.	Research Institute Council	1999-2000	Member
15.	Graduate Studies Council	2000-2001	Member
16.	Research Institute Council	2000-2001	Member
17.	Academic Committee	2001-2002	Member
18.	Academic Text-Books Committee	2001-2002	Member
19.	Faculty Affairs Committee	2001-2002	Member
20.	University Board	2001-2002	Member
21.	Appointment of Graduate Assistants and Lecturers Committee	2001-2002	Member
22.	Academic Committee	2002-2003	Member
23.	Academic Text-Books Committee	2002-2003	Member
24.	Faculty Affairs Committee	2002-2003	Member
25.	University Board	2002-2003	Member
26.	Appointment of Graduate Assistants and Lecturers Committee	2001-2002	Member
27.	Academic Committee	2003-2004	Member
28.	Academic Text-Books Committee	2003-2004	Member
29.	Faculty Affairs Committee	2003-2004	Member
30.	University Board	2003-2004	Member
31.	Appointment of Graduate Assistants and Lecturers Committee	2003-2004	Member
32.	Planning Committee	2003-2004	Member
33.	Academic Committee	2004-2005	Member
34.	Appointment of Graduate Assistants and Lecturers Committee	2004-2005	Member
35.	Faculty Affairs Committee	2004-2005	Member
36.	Faculty Over 60 years	2004-2005	Member
37.	Planning Committee	2004-2005	Member

38.	University Board	2004-2005	Member
39.	Planning Committee	2005-2006	Member
40.	Academic Committee	2005-2006	Member
41.	Appointment of Graduate Assistants and Lecturers Committee	2005-2006	Member
41.	Faculty Affairs Committee	2005-2006	Member
43.	Faculty Over 60 years	2005-2006	Member
44.	Planning Committee	2005-2006	Member
45.	University Board	2005-2006	Member
46.	Planning Committee	2006-2007	Member
47.	Academic Committee	2006-2007	Member
48.	Appointment of Graduate Assistants and Lecturers Committee	2006-2007	Member
49.	Faculty Affairs Committee	2006-2007	Member
50.	Planning Committee	2006-2007	Member
51.	University Board	2006-2007	Member

5.3 Participation in University Ad-Hoc Committees

	Committee Name	Year	Role
1.	Committee on Excessive Withdrawal of Courses by Students at KFUPM	1989-1990	Member
2.	Committee on Computer Usage	1997-1998	Member
3.	Committee on Summer Issues	1998-1999	Chairman
4.	Process Control Group	1997-1998	Chairman
5.	Process Control Group	1998-1999	Chairman
6.	Committee on Summer Issues	1999-2000	Member
7.	Committee on Establishment of Technology & Innovation Center (TIC) at KFUPM	2001-2002	Chairman
8.	Committee on Development of Guidelines for students Seeking Transfer to the Diploma Program and Vice-Versa	2001-2002	Chairman
9.	Committee on Applied Engineering & Coop Program	2002-2003	Chairman
9.	Committee on KFUPM Policy and Procedures on Graders	2002-2003	Member
10.	Committee on University Teaching Load	2003-2004	Member
11.	Committee on Faculty Recruitment Process	2003-2004	Chairman
12.	Committee on Ranking of Lecturers	2004-2005	Chairman
13.	Committee on Ranking of Lecturers	2004-2005	Member
14.	ABET Coordination Committee	2006-2007	Chairman
15.	ABET Steering Committee	2006-2007	Chairman

5.4 Participation in College Committees

	Committee Name	Year	Role
1.	Ad hoc Committee on Lecturer and Academic Support Staff Ranking	1991-1992	Member
2.	Adhoc Committee on Space Utilization in College of Engineering	1993-1994	Member
3.	Adhoc Committee on Space Utilization in College of Engineering	1994-1995	Chairman
4.	College of Engineering Council	1995-2002	Member
5.	College of Engineering Council	2002-present	Chair

5.5 Participation in Department Standing Committees

	Committee Name	Year	Role
1.	Project/Seminar Committee	1986-1987	Chairman
2.	Laboratory Supervision Committee	1987-1988	Chairman
3.	Graduate Admission Committee	1987-1988	Member
4.	Laboratory Supervision Committee	1988-1989	Chairman
5.	Laboratory Supervision Committee	1989-1990	Chairman
6.	Laboratory Supervision Committee	1990-1991	Chairman
7.	Laboratory Supervision Committee	1991-1992	Chairman
8.	Computer Utilization Committee	1991-1992	Member
9.	Laboratory Supervision Committee	1992-1993	Chairman
10.	Computer Utilization Committee	1992-1993	Member
11.	Laboratory Supervision Committee	1993-1994	Chairman
12.	Computer Utilization Committee	1993-1994	Member
13.	Laboratory Supervision Committee	1994-1995	Chairman
14.	Graduate Admission Committee	1994-1995	Member

5.6 Participation in National and International Committees

	Committee Name	Year	Role
1.	Dean's Committee for the Colleges of Engineering, Architecture, Planning and Computer of the Arab-Gulf Cooperation	2002-2003	Member
2.	Committee to Study the Feasibility of Forming the Gulf Cooperation Council Accreditation Board for Engineering and Technology	2002-2003	Member
3.	Scholarship for Outstanding Students Ministry of Higher Education	2003-2004	Member

