

3. The report indicates that forty refereed journal papers have been published by faculty since approval of the program. We would like to see a listing by faculty member of those publications.

The publication listings are arranged by faculty name in alphabetical and reverse chronological order as requested. Some publications are duplicated from one faculty member to another due to multiple authors.

Dr. Cajetan Akujuobi

1. M. N. O. Sadiku, C.M. Akujuobi, S.M. Musa, and S. R. Nelatury, “Analysis of time-dependent cylindrical problems using Monte Carlo,” *Microwave and Optical Technology Letters*, vol. 49, no. 10, Oct. 2007, pp. 2571-2573.
2. Ampah, N. K., Akujuobi, C. M., Alam, S., Sadiku, M. N. O. “An Intrusion Detection Technique Based on Continuous Binary Communication Channels”, *International Journal of Security and Networks (IJSN)*, October 2007
3. Akujuobi, C. M.; Ampah, N. K.; Sadiku, M. N.O. “Application of Wavelets and Self-similarity to Enterprise Network Intrusion Detection and Prevention Systems”, *Proc. of 11th. Annual IEEE International Symposium on Consumer Electronics (ISCE)*, June, 2007.
4. C. M. Akujuobi, N. K. Ampah, and M. N. O. Sadiku, “An intrusion detection technique based on change in Hurst parameter with application to network security,” *International Journal of Computer Science & Network Security*, vol. 7, no. 5, May 30, 2007, pp. 55-64.
5. S. M. Musa, M. N. O. Sadiku, and C. M. Akujuobi, “S-Parameters for three and four two-port networks,” *Technology Interface*, vol. 7, no. 2, Spring 2007.
6. M. N. O. Sadiku, C.M. Akujuobi, S.M. Musa, and S. R. Nelatury, “Direct Monte Carlo Simulation of Time-dependent Problems,” *Technology Interface*, Fall 2007.
7. Matthew N.O. Sadiku and Cajetan M. Akujuobi, Chapter 14 – Computer Networks, “Computers, Software Engineering, and Digital Devices; in *The Electrical Engineering Handbook*, 3rd ed., Edited by Richard C. Doff, CRC, 2006, pp.14.1-14.18.
8. Cajetan M. Akujuobi, Jie Shen, and Matthew N. O. Sadiku, “A New Parallel Greedy Bit-Loading Algorithm With Fairness for Multi-Users in a DMT System”, *IEEE Transactions on Communications*, Vol. 54, No. 8, August 2006.

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11. Cary Smith, Cajetan M. Akujuobi, Kurt Kloesel and Phil Hamory, An Approach to Vibration Analysis Using Wavelets in an Application of Aircraft Health Monitoring, *Journal of Mechanical Systems and Signal Processing*, Accepted for Publication June 16, 2006, Ref. # MSSP05-189R2, Elsevier, 2006.
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14. M. N. O. Sadiku, S.M. Musa, and C. M. Akujuobi, "Smart Materials and their Applications," *IEEE Potential Journal* submitted March 16, 2006.
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16. C. M. Akujuobi and Matthew N. O. Sadiku, "The Present and Future of Broadband Communication", *IEEE Potential Journal*, October/November 2005, pg. 12-16.
17. Cajetan M. Akujuobi and Jian-ao Lian, "Image Compression Using Nonorthogonal and Orthogonally Compensated W-Matrices", *Chinese Journal of Engineering Mathematics*, Vol. 22, No. 5, Oct. 2005.
18. Matthew N. O. Sadiku, Cajetan M. Akujuobi and Raymond C. Garcia, "An Introduction to Wavelets in Electromagnetics", *IEEE Microwave Magazine*, June 2005.
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Dr. Annamalai Annamalai

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Dr. John Attia

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3. John Attia, Electronics and Circuit Analysis Using MATLAB, 2nd Edition, CRC Press, 2004. ISBN: 0-8493-1892-0.

4. John Attia, *Solution Manual for Electronics and Circuit Analysis Using MATLAB*, CRC Press, 2004. ISBN: 0-8493-2852-7.

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Dr. Lijun Qian

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27. M. N. O. Sadiku, C. M. Akujuobi, and R. C. Garcia, "An introduction to wavelets in electromagnetics," IEEE Microwave Magazine, vol. 6, no.2, June 2005, pp. 63-72.
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32. Charles K. Alexander and M.N.O. Sadiku, "Fundamentals of Electric Circuits", McGraw Hill, 2nd ed., 2004.
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Dr. Dhadesugoor Vaman

1. "Cross – Layer Distributed Power Control and Scheduling for Delay – Constrained Applications over CDMA – based Wireless Ad Hoc Networks", IEEE Transactions on Communications, Accepted for Publications (To appear in IIQ 2008).
2. "Cognitive Radio Based Multi-User Resource Allocation in Mobile Ad Hoc Networks using Multi-Carrier CDMA Modulation", IEEE Journal of Selected Area Communications (IEEE JSAC) Special Issue on Cognitive Radios, Vol. 26, No. 1, January 2008, pp 70 – 82.
3. Qian, L., D.R. Vaman, and N. Song (2007). "QoS-Aware Maximally Disjoint Routing in Power Controlled Multihop CDMA Wireless Ad Hoc Networks", EURASIP Journal on Wireless Communications and Networking, Volume 2007, Article ID 53717. (DOI: 10.1155/2007/53717)
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Dr. Richard Wilkins

1. S. Ju, K. Lee, D. B. Janes, R. C. Dwivedi, H. Baffour-Awuah, R. Wilkins, M-H. Yoon, A. Facchetti and T. J. Marks, "Radiation Hardness of Single Nanowire Transistors Using Robust Organic Gate, Nanodielectrics", Applied Physics Letters, Vol 89, 073510 (2006) & Erratum: Vol. 89, 139902 (2006).
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4. D. M. Allen, L Navarrete, J. Dou, R. Schad, P. Periaswami, P. Kale, R. K. Pandey, S. Shojah-Ardalan and R. Wilkins, "Chemical Ordering in Ilmenite-Hematite Ceramics Through Proton Irradiation", Applied Physics Letters, Vol. 85 (2004).
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9. "Electrical Characteristics of Proton-Irradiated Sc₂O₃ Passivated AlGaIn/GaN High Electron Mobility Transistors", B. Lou, et. al., Applied Physics Letters, Vol. 82, 1428 (2003).

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4. You indicate that nineteen grants/contracts were initiated since approval of the program or, if awarded prior to the program approval date, were continued beyond the date of the program approval. By contrast, student research and professional activities are relatively modest, although additional information could clarify the nature of the six student publications and two student awards cited.

The publications listings are arranged by students' name in alphabetical and reserve chronological order. Some publications are duplicated between students and/or faculty members due to multiple authors.

(a) The student publications are as follows:

Mr. N.K. Ampah (advanced to candidacy in 2007)

1. Akujuobi, C. M.; Ampah, N. K.; Sadiku, M. N.O. "Application of Wavelets and Self-similarity to Enterprise Network Intrusion Detection and Prevention Systems", Proc. of 11th. Annual IEEE International Symposium on Consumer Electronics (ISCE), June, 2007.
2. C. M. Akujuobi, N. K. Ampah, and M. N. O. Sadiku, "An intrusion detection technique based on change in Hurst parameter with application to network security," International Journal of Computer Science & Network Security, vol. 7, no. 5, May 30, 2007, pp. 55-64.
3. Akujuobi, C. M.; Ampah, N. K.; Sadiku, M. N.O. "Application of Signal Detection and Estimation Theory to Network Security", Proc. of 11th. Annual IEEE International Symposium on Consumer Electronics (ISCE), June, 2007. (Published)

Mr. Shuza Binzaid

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2. Shuza Binzaid, John O. Attia, Ron D. Schrimpf, "Enclosed Layout Transistor with Active Region Cutout", Pbasics2 Region 5 Conference, April 2008, Page(s) 22-26.
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Mr. Song Gao

1. S. Gao, L. Qian, and D.R. Vaman (2008). “Energy Efficient Adaptive Modulation in Wireless Cognitive Radio Ad Hoc Networks”, IEEE Workshop on Networking Technologies for Software Defined Radio (SDR) Networks, San Francisco, CA.
2. S. Gao, L. Qian, and D.R. Vaman (2008). “Distributed Energy Efficient Spectrum Access in Wireless Cognitive Radio Sensor Networks”, IEEE Wireless Communications and Networking Conference (WCNC), Mar 2008, Las Vegas, NV.
3. S. Gao, L. Qian, and D.R. Vaman (2008). “Energy-Efficient Resource Allocation in Cognitive Radio Ad Hoc Networks”, IEEE Sarnoff Symposium, Apr. 2008, Princeton, NJ.
4. S. Gao, Q. Qu, L. Qian, and D.R. Vaman (2007). “Energy Efficient Adaptive Modulation in Wireless Cognitive Radio Sensor Networks”, IEEE International Conference on Communications (ICC), June 2007, Glasgow, Scotland.

Mr. Odejide (advanced to candidacy in 2008)

1. C. Akujoubi, O. Odejide, A. Annamalai, and G. Fudge, "Sparseness Measures of Signals for Compressive Sampling," *Proc. 7th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT'07)*, Cairo, December 2007, pp. 1042-1047.

Mr. Cary Smith (advanced to candidacy in 2007)

1. Cary Smith, Cajetan M. Akujuobi, Kurt Kloesel and Phil Hamory, An Approach to Vibration Analysis Using Wavelets in an Application of Aircraft Health Monitoring, *Journal of Mechanical Systems and Signal Processing*, Accepted for Publication June 16, 2006, Ref. # MSSP05-189R2, Elsevier, 2006.

Dr. Ning Song (graduated in 2007)

1. Lijun Qian, Ning Song, and et. al, "Detection of Wormhole Attacks in Multipath Routed Wireless Ad Hoc Networks: A Statistical Analysis Approach", *Journal of Network and Computer Applications*, vol.30, pp.308-330, 2007.
2. Lijun Qian, Ning Song, and et. al, "Secure Anonymous Routing in Clustered Multihop Wireless Ad Hoc Networks", in *Proceeding of IEEE Conference on Information Sciences and Systems (CISS 2006)*, Mar 22-24, Princeton, NJ.
3. Lijun Qian, Dhadesugoor R. Vaman, and Ning Song, "QoS-Aware Maximally Disjoint Routing in Power Controlled Multihop CDMA Wireless Ad Hoc Networks", *EURASIP Journal on Wireless Communications and Networking*, special issue on Wireless Mobile Ad Hoc Networks, 2007.
4. Lijun Qian, Ning Song, Dhadesugoor R. Vaman, and et. al, "Joint Power Control and Maximally Disjoint Routing for Reliable Data Delivery in Multihop Wireless Ad Hoc Networks", in *Proceeding of IEEE Wireless Communications and Networking Conference (WCNC 2006)*, Apr 2-6, Las Vegas, NV.
5. Lijun Qian, Ning Song, Dhadesugoor R. Vaman, and et. al, "Power Control and Proportional Fair Scheduling with Minimum Rate Constraints in Clustered Multihop TD/CDMA Wireless Ad Hoc Networks", in *Proceeding of IEEE Wireless Communications and Networking Conference (WCNC 2006)*, Apr 2-6, Las Vegas, NV.
6. Lijun Qian, Ning Song, and X. Li, "SARC: Secure Anonymous Routing for Cluster based MANET", book chapter in *Wireless Communications Research Trends*, pp.55-81, Nova Science Publishers, Inc. 2007.
7. Lijun Qian, Ning Song, and et. al, "Detecting and locating wormhole attacks in wireless ad hoc networks through statistical analysis of multi-path", in *Proceeding of IEEE Wireless Communications and Networking Conference (WCNC 2005)*, New Orleans, LA.
8. Ning Song, Lijun Qian and et. al, "Wormhole Attacks Detection in Wireless Ad Hoc Networks: A Statistical Analysis Approach", in *Proceeding of The 1st International Workshop on Security in Systems and Networks (SSN 2005)*, Apr 2005.

Mr. Haixin Wang (advanced to candidacy in 2007)

1. Qian, L., H. Wang, and E. Dougherty (2008). "Inference of Noisy Nonlinear Differential Equation Models for Gene Regulatory Networks using Genetic Programming and Kalman Filtering", IEEE Transactions on Signal Processing, Vol.56, No.8.
2. Qian, L., and H. Wang (2007). "Inference of Genetic Regulatory Networks by Evolutionary Algorithm and H_infinity Filter", (invited paper) IEEE Statistical Signal Processing Workshop, Aug 2007.
3. Wang, H., L. Qian, and E. Dougherty (2007). "Modeling Genetic Regulatory Networks by Sigmoidal Functions: A Joint Genetic Algorithm and Kalman Filtering Approach", IEEE ICNC 2007.
4. Wang, H., L. Qian, and E. Dougherty (2007). "Inference of Gene Regulatory Networks using S-System: A Unified Approach", IEEE CIBCB 2007.
5. Wang, H., L. Qian, and E. Dougherty (2006). "Inference of Gene Regulatory Networks using Genetic Programming and Kalman Filter", IEEE Gensips 2006.

(b) The students' awards are as follows:

Emad Awada, PhD student, won the second place award (Engineering) at the 2006 TAMUS Pathways Symposium (November 10 -11, 2006) for his paper titled *Wavelet-Based ADC Mixed Signal Testing*.

Cary Smith, PhD student, won the third place award (Engineering) at the 2006 TAMUS Pathways Symposium (November 10 -11, 2006) for his paper titled *Novel Technique for Vibration Detection using Wavelets for the Pathfinder Plus Aircraft*.

(c) Please note a correction: Total Amount of Funded Doctoral Research Projects was \$5,610,214 instead of \$56 Million as reported in your letter. *The three-year report is attached.*

5. One challenge for this program is to increase the number of students enrolled in the program to take advantage of the faculty.... Please send more information regarding current enrollments and recruitment initiatives upon receipt of this letter.

The fall 2007 enrollment was 13 and the spring 2008 was 12. It should be noted that there were 5 part time students (Willie Walters, AHM Zaman, Mahmud Mohammed, Supriya Kher, Alam Shumon), who were not enrolled. Three of the part-time students have successfully passed the preliminary examinations of the program.

In addition to the recruiting strategies mentioned earlier; we have performed the following recruitment activities during the fall 2007 and spring 2008 semesters: