

RAMI J. HADDAD, Ph.D.

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Georgia Southern University

Allen E. Paulson College of Engineering and Information Technology

Department of Electrical Engineering

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EDUCATION

Ph.D., The University of Akron, USA (August 2011)

Major: Electrical and Computer Engineering

M.Sc., University of Minnesota Duluth, USA (May 2006)

Major: Electrical and Computer Engineering

Minor: Engineering Management

B.Sc., Applied Science University, Jordan (July 2004)

Major: Telecommunication and Electronics Engineering

Al-Quds University Community College, Jordan (May 2003)

Certified Electronic Devices Technician

AWARDS AND HONORS

- 2014-2015 Georgia Southern University IEEE Student Chapter **#1 Cheerleader Professor Award.**
- 2014-2015 Georgia Southern University Certificate of Excellence for **Sustainability.**
- 2009-2010 University of Akron ECE Dept. **Outstanding Graduate Researcher Award.**
- 2005-2006 University of Minnesota Duluth ECE Dept. **Outstanding Graduate Teaching Assistant Award.**
- 2004-2005 University of Minnesota Duluth ECE Dept. **Outstanding Graduate Teaching Assistant Award.**

SPONSORED PROJECTS

- ***National Science Foundation***
PI: Rami Haddad; April 1, 2015
“NSF Travel Grant – Engineering Sustainability Conference”
- ***Georgia Southern University Center for Sustainability***
PI: Frank Gross, Co-PI: Rami Haddad; December 1, 2014 to May 30, 2015
“Sustainable Wind Energy Harvesting from Campus AC Cooling Towers/Chillers”
- ***Georgia Southern University Center for Sustainability***
PI: Rami Haddad; August 1, 2014 to July 30, 2015
“Solar Powered Service Golf Carts”

- **Schweitzer Engineering Laboratories**
PI: Rami Haddad, Youakim Kalaani; January 1, 2014
“Synchronphasors in Smart Grid”
- **Faculty Research Seed Grants (CEIT-FRSG) program**
PI: Rami Haddad, Youakim Kalaani; January 1, 2014 to December 31, 2014
“Ultra-Fast, Autonomous, Reconfigurable Disaster Communication System”

LICENSURES AND CERTIFICATIONS

- Cisco Certified Network Associate (CCNA), Cisco Learning Network. (March, 2003).

PATENTS

- Hayee, M. I., **Haddad, R.**, “*Optical Communication System having Enhanced Spectral Efficiency using Electronic Signal Processing*” patent no. **8,478,131**, issued on July 2, 2013.

BOOKS

- Computing for Engineers, 2nd Edition, July, 2014 - *Authors*: Shonda Bernadin & **Rami J. Haddad**, Publisher: Kendall Hunt (ISBN: 978-146-525945-5).

JOURNAL ARTICLES

- **Haddad, R.**, Kalaani, Y.; “**Undergraduate Research Scholar: The First Step towards a Hybrid Lecture-Based and Inquiry/Research-Based Engineering Program**”, The Technology Interface International Journal (TIIJ), (Accepted to be published in 2015).
- El-Shahat, A., Kalaani, Y., **Haddad, R.**; “**Wind Energy Estimation Functions for Future Homes**”, Journal of Power Technologies, (Accepted to be published in 2015).
- El-Shahat, A., **Haddad, R.**, Kalaani, Y.; “**Optimum ANN Empirical Model of Capacitive Deionization Desalination Unit**”, International Journal of Industrial Electronics and Drives; (Accepted to be published in 2015).
- **Haddad, R.**, El-Shahat, A., Kalaani, Y.; “**Lead Acid Battery Modeling for PV Applications**”, Journal of Electrical Engineering, ISSN 1582-4594, (Accepted to be published in 2015).
- Kalaani, Y., **Haddad, R.**, El-Shahat, A., “**PMSM Sensorless Speed Control Drive**”, Journal of Engineering Research and Technology, (Accepted to be published in 2015).
- **Haddad, R.**; McGarry, M., Seeling, P., “**Video Bandwidth Forecasting**”, IEEE Communications Surveys and Tutorials, vol. 15, no. 4, pp. 1803-1818, Fourth Quarter, April, 2013.
- **Haddad, R.**; McGarry, M., “**Feed Forward Bandwidth Indication (FFBI): Cooperation for an Accurate Bandwidth Forecast**”, Elsevier Journal of Computer Communications, Vol. 35, No. 6, pp. 748 – 758, Mar. 2012.

- Hayee, M. I., Haddad, R., “**Enhancing Spectral Efficiency of Binary NRZ Optical Networks with Electronic Signal Processing**”, in IEEE/OSA Journal of Optical Networking, Vol. 5, Issue 9, pp. 655-661, Sept. 2006.
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CONFERENCE ARTICLES

- Wallace, R.; Guha, B.; Santangelo, M.; Mitra, A.; Haddad, R., “**Suspension Simulation Model Verification through Experimental Data for Lateral Force in Mini Baja Student Competition Car**”, Vibration Institute Annual Training Conference, 15-17 July 2015 (Accepted, to be presented).
- Haddad, R., Kalaani, Y., “**Flipping Homework: An Effective Homework Model**”, 2015 American Society for Engineering Education, ASEE Annual Conference and Exposition. (Accepted to be presented).
- Haddad, R., Kalaani, Y., “**A Novel Peer-Assisted Hybrid Flipped Classroom Model Using Online Discussion**”, 2015 American Society for Engineering Education, ASEE Annual Conference and Exposition. (Accepted to be presented).
- Haddad, R., Kalaani, Y., Guha, B., “**Solar Golf Carts - A Practical Approach to Sustainability Awareness**”, Engineering Sustainability Conference 2015, 19-21 April 2015.
- Kalaani, Y., Haddad, R., Nichols W., “**Feasibility/Environmental Analysis for a Photovoltaic Energy Systems for Commercial Buildings**”, Engineering Sustainability Conference 2015, 19-21 April 2015.
- Kalaani, Y., Haddad, R., Purser, M., “**A Technical and Economic Feasibility Study of Implementing a Micro-grid at an Educational Institution**”, Engineering Sustainability Conference 2015, 19-21 April 2015.
- Kalaani, Y., Haddad, R., Guha, B., “**A Hybrid Simulation and Hands-On Experimentation for Electric Machines Laboratory**”, American Society for Engineering Education, ASEE Southeastern Section Conference, Gainesville, FL, 12-14 April 2015.
- El-Shahat A., Haddad, R., Kalaani, Y., “**Smart Grids Technology Fundamentals – A New Course Model**”, American Society for Engineering Education, ASEE Southeastern Section Conference, Gainesville, FL, 12-14 April 2015.
- Haddad, R., Kalaani, Y., “**Cross Disciplinary Perceptions of the Computational Thinking among Freshmen Engineering Students**”, American Society for Engineering Education, ASEE Southeastern Section Conference, Gainesville, FL, 12-14 April 2015.
- Guha, B., Haddad, R., Kalaani, Y., “**A Passive Islanding Detection Approach for Inverter-based Distributed Generation Systems Using Rate of Change of Frequency Analysis**”, IEEE Southeast Conference, Fort Lauderdale, FL, 19-21 April 2015.
- Bupe, P., Haddad, R., Rios-Gutierrez, F., “**Relief and Emergency Communication Network Based on an Autonomous Decentralized UAV Clustering Network**”, IEEE Southeast Conference, Fort Lauderdale, FL, 19-21 April 2015.
- El-Shahat, A., Haddad, R., Kalaani, Y., “**An Artificial Neural Network Model for Wind Energy Estimation**”, IEEE Southeast Conference, Fort Lauderdale, FL, 19-21 April 2015.
- Guha, B., Haddad, R., Kalaani, Y., “**Performance Impact Analysis of Solar Cell Retrofitted Electric Golf Cart**”, IEEE Southeast Conference, Fort Lauderdale, FL, 19-21 April 2015.

- Guha, B., Haddad, R., Kalaani, Y., “**Anti-Islanding Techniques for Distributed Generation Systems – A Survey**”, IEEE Southeast Conference, Fort Lauderdale, FL, 19-21 April 2015.
- Haddad, R., Kalaani, Y., “**Can Computational Thinking Predict Academic Performance?**”, IEEE Integrated STEM Education Conference (ISEC), Princeton, NJ, March, 7, 2015.
- Guha, B., Haddad, R., Kalaani, Y., “**A Novel Passive Islanding Detection Technique for Converter-Based Distributed Generation Systems**”, IEEE Power & Energy Society (PES) Innovative Smart Grid Technologies (ISGT2015), 17-20 Feb. 2015.
- Purser, M., Kalaani, Y., Haddad, R., “**A Technical and Economical Study of Implementing a Microgrid System at an Educational Institution**”, IEEE Power & Energy Society (PES) Innovative Smart Grid Technologies (ISGT2015), 17-20 Feb. 2015.
- Guha, B.; Haddad, R., “**A Novel Passive Anti-Islanding Technique for Inverter-Based Distributed Generation Systems**”, Dr. Gregory P. Domin Graduate Research Conference, Oct., 15 2014.
- Haddad, R., Kalaani, Y., “**Undergraduate Research Scholar: The First Step towards a Hybrid Lecture-Based and Inquiry/Research-Based Undergraduate Electrical Engineering Program**”, 4th IAJC/ISAM Joint International Conference, Orlando, FL, 25-27 Sept. 2014.
- Haddad, R.; Robertson, A., “**Monitoring Optical Fiber Dispersion for Multimedia Applications**”, IEEE International Conference on Multimedia and Expo Workshops (ICMEW), Chengdu, China, 18th July 2014.
- Haddad, R., Kalaani, Y., “**Adaptive Teaching: An Effective Approach for Learner-Centric Classrooms**”, Proceedings of the 2014 American Society for Engineering Education, ASEE International Forum, 14 June 2014 (ASEE).
- Haddad, R., Kalaani, Y., “**Google Forms: A Real-Time Formative Assessment Approach for Adaptive Learning**”, Proceedings of the 2014 American Society for Engineering Education, ASEE Annual Conference and Exposition, 15-18 June 2014 (ASEE).
- Kalaani, Y., Haddad, R., “**A Unified Approach to the Assessment of Student Learning Outcomes in Electrical Engineering Programs**”, Proceedings of the 2014 American Society for Engineering Education, ASEE Annual Conference and Exposition, 15-18 June 2014 (ASEE).
- Haddad, R., Kalaani, Y., “**Gaming Against Plagiarism (GAP): A Game-Based Approach to Illustrate Research Misconduct to Undergraduate Engineering Students**”, Proceedings of the 2014 American Society for Engineering Education Southeast Section Conference, 30th March. 2014 (ASEE).
- Kalaani, Y., Haddad, R., “**Continuous Improvement in the Assessment Process of Engineering Programs**”, Proceedings of the 2014 American Society for Engineering Education Southeast Section Conference, 30th March. 2014 (ASEE).
- Robertson, A., Haddad, R., “**Monitoring Optical Fiber Dispersion**”, Proceedings of the 2014 American Society for Engineering Education Southeast Section Conference, 30th March. 2014 (ASEE).
- Robertson, A., Haddad, R., “**Optical Fiber Degradation Monitoring**”, 2nd Georgia Undergraduate Research Conference (GURC), Columbus, GA, 24-25 Jan. 2014.
- Haddad, R.; McGarry, M.; Luo, Yuanqiu, “**Forecast Grant Sizing for Video Delivery over Passive Optical Networks**”, IEEE International Conference on Multimedia and Expo Workshops (ICMEW), pp. 1-6, 15-19 July 2013.

- McGarry, M.; Seeling, P.; **Haddad, R.**; Hernandez, J., “**Accuracy of video frame size forecasting**”, IEEE International Conference on Electro/Information Technology (EIT), pp. 1–5, May 2012.
- McAlarney, J., **Haddad, R.**, McGarry, M., “**Modeling Network Protocol Overhead for Video**”, accepted at Internet Modeling, Semantic Web and Ontologies, European Modeling Symposium, Nov. 2010, (EMS).
- McGarry, M., **Haddad, R.**, McAlarney, J., “**A New Approach to Video Bandwidth Prediction**”, International conference on Ultra-Modern Telecommunication & Workshops, 2009 (ICUMT). pp. 1-5.
- Hassan, F., **Haddad, R.**, Khorbotly, S., “**Module-Based, Hands-On Experiments for Digital Communication Lab.**”, American Society for Engineering Education North Central Section Conference, 2009 (ASEE).
- **Haddad, R.**, “**Performance Monitoring for Automated Robust Optical Fiber Networks Using Bit-Stream Distribution Approximation**”, in CUGSR2008 Akron, Ohio 2008.
- **Haddad, R.**, Hayee, M. I., “**Spectral Efficiency of up to 1.6 bit/sec/Hz in Binary NRZ WDM Systems using Electronic Signal Processing**”, OSA Conference on Lasers & Electro-Optics & Quantum Electronics & Laser Science Conference. (CLEO/QELS) pp. 1-2, 2006.
- Hayee, M. I., **Haddad, R.**, “**Chirped RZ-DPSK Modulation Format in 40Gb/s WDM Transmission Systems**”, OSA Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications Systems Technologies. (CLEO/QELS), 1798-1800 vol. 3, 2005.

EXPERIENCE

- **Georgia Southern University** (August 2013-Present)
Assistant Professor (Tenure Track)
 - Directing the optical communication & smart grid research laboratory.
 - Directing the sustainability and renewable energy harvesting laboratory.
 - Teaching courses in communication systems, digital communication, optical communication, advance engineering analysis, computing for engineers, and intro. to computer engineering; between 4.8/5 and 5/5 average teaching evaluations each semester.
 - Students graduated:
 - **Bikiran Guha, MS (May 2015)**
 - **Paul Bupe, MS (May 2015)**
 - **Andrew Robertson, Honor (May 2015)**
- **Georgia Southern University** (August 2011- August 2013)
Visiting Assistant Professor
 - Teaching courses in *signal processing, communication systems, advance engineering analysis, computing for engineers, digital systems, and intro. to computer engineering*; between **4.8/5** and **5/5** average teaching evaluations each semester.
- **University of Akron** (August 2010- August 2011)
Senior Lecturer
 - Teaching courses in wireless communication, and computer architecture; 3.8/4 teaching evaluation 4.6/5 for Fall 2010, and 4.7/5 for Spring 2011.
 - Student co-advise with Michael McGarry:
 - **Rosish Shakya MS (May 2011)**

SERVICE

- **Organizing Committee Member** for:
 - GSU Research Symposium 2015
 - STEM Research Summit 2014
- **Session Chair** for:
 - American Society of Electrical Engineers (ASEE) Annual Conference 2015
 - IEEE Integrated STEM Education Conference (ISEC) 2015
 - American Society of Electrical Engineers (ASEE) Annual Conference 2014
- **Technical Program Committee (TPC) Member** for:
 - IEEE International Conference on Signal Processing & Data Mining (ICSPDM) 2014 through 2015.
 - 3rd International Conference on Advances in Computing, Communications and Informatics (ICACCI) 2013 through 2014.
 - IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES) 2014 through 2015.
 - 12th IEEE India International Conference (INDICON 2015).
 - World Symposium on Mechatronics Engineering & Applied Physics (WSMEAP 2015).
 - Global Summit on Computer & Information Technology (GSCIT 2015).
 - International Conference on Green Computing and Internet of Things (ICGCIoT 2015).
 - IEEE International Conference on Solar Energy and Building (ICSoEB 2015).
 - International Conference on Engineering & Computational Innovation Sciences (ENCINS 2015).
 - IEEE International Conference on Computer Vision and Image Analysis applications (ICCVIA 2015).
 - 3rd International Conference on Consumer Electronics, Communications and Networks (CECNet 2013).
- **Peer-reviewer** for various OSA, IEEE, IET, & Elsevier journals
- **Founding Faculty Advisor the Optical Society of America (OSA) Student Chapter (Eagle Optics)** at Georgia Southern University. (March, 2014 – Present)
- **IEEE Membership Development Chair** at the IEEE Savannah section. (August, 2013 – Present)
- **Affiliate faculty member** in the **GSU STEM Institute**. (October, 2012 – Present)
- **Founding Co-director**, for the CEIT Office of Undergraduate Research. (Aug., 2013 – Present)

REFERENCES

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| • Dr. Michael McGarry | Assist. Prof. (UTEP) | email: mpmcgarry@utep.edu |
| • Dr. Youakim Kalaani | Assoc. Prof. (GSU) | email: yalkalaani@georgiasouthern.edu |
| • Dr. Shonda Bernadin | Assoc. Prof. (FSU) | email: swalker@fsu.edu |
| • Dr. Imran Hayee | Assoc. Prof. (UMD) | email: ihayee@d.umn.edu |