# MALEK ABUNAEMEH

Department of Physics and Astronomy University of Alabama in Huntsville abunaem@uah.edu

# **EDUCATION**

#### Alabama Agricultural and Mechanical University - Normal, AL

Ph.D. (Dec 2011) Major: Applied Physics (Focus: Material Science)Dissertation: Mechanical and Physical properties of Ion Irradiation Damage in Glassy Polymeric Carbon for Nuclear Applications

#### University of Alabama in Huntsville – Huntsville, AL

**M.S.** (May 2008) **Major**: Physics (Focus: Solar Instrumentation) Thesis: Photometric and Astrometric Fidelity of High-Resistivity, p-Channel Charge Coupled Devices

# University of Alabama – Tuscaloosa, AL

**B.S.** (May 2001) **Major:** Electrical Engineering – **Minor**: Math

# Shelton State Community College – Tuscaloosa, AL

Course Study: Electrical Engineering -

# **COURSES TAUGHT**

- PHY 131 introductory to Physics for non-science majors, Lehman College (Spring 2013, Fall 2013)
- PHY 135 introductory to Physics for science majors, Lehman College (Fall 2013)
- PHY 101 Physical Science I, Alabama A&M University (Fall 2010)
- PHY 113 General Physics with Calculus II, University of Alabama in Huntsville (Fall 2006)
- PHY Summer Bridge Program, Drake State Community College (Summer 2011)
- PHY 101 Physics for Scientist I, Talladega College (Fall 2011, Spring 2012)
- PHY 102 Physics for Scientist II, Talladega College (Fall 2011, Spring 2012)
- NS 101 Physical Natural Science I, Talladega College (Fall 2011, Spring 2012, Fall 2012)
- NS 102 Physical Natural Science II, Talladega College (Fall 2011, Spring 2012, Fall 2012)
- ESC 751 Scientific Teaching Methods, Lehman College (Spring 2013)
- ESC 611/612 Scientific Seminar, Lehman College (Spring 2013)
- PHY 2048 University Physics I Lab, University of West Florida (Summer and Fall 2014)
- PHT 2053 General Physics I, University of West Florida (Summer and Fall 2014)
- MECH 1100 Electrical Components, Motlow State (Fall 2017)
- MECH 1200 Mechanical Components and Electrical Drives Motlow State (Fall 2017)
- MECH 1200 Totally integrated Automation, Motlow State (Fall 2017)

- MECH 2300 Automation systems, Motlow State (Fall 2017)
- MECH 1500 Into to PLC programming, Motlow State (Spring 2018)
- MECH 2100 Process control technology, Motlow State (Spring 2018)
- MECH 2400 Motor control, Motlow State (Spring 2018)
- MECH 2500- Mechanics and Machine elements, Motlow State (Spring 2018)
- PH 101 Introduction to physics I with lab, University of Alabama in Huntsville (Fall 2018, Fall 2019, Fall 2020)
- PH 102 Introduction to physics II, University of Alabama in Huntsville (Spring 2019, Spring 2020, Spring 2021)
- PH 111 Physics with Calculus I for science and engineering (Fall 2019, Fall 2020)
- PH 112 Physics with Calculus II for science and engineering (Summer 2019, Spring 2020, Spring 2021)
- PH113 Physics with calculus III for science and engineering (Summer 2019, Fall 2020, Spring 2021)
- PH116 Physics with calculus III for science and engineering Lab (Summer 2019, Fall 2020, Spring 2021)

# **PROFESSIONAL EXPERIENCE**

8/18 – PRESENT University of Alabama in Huntsville Huntsville, AL **Physics Lecturer** 

- Teach physics courses to classes of up to 175 students per class
- Teach online courses
- Coordinate lab for physic courses
- Supervise graduate students
- Incorporate canvas into the lectures
- Write lab manual for PH 101 and PH 102
- Write lab manual for PH 116

8/17 – 7/18 Motlow State Community College Fayetteville, TN **Mechatronics lecturer** 

- Teach Various Mechatronics courses including PLC and Motors
- Served on Faculty Excellence committee
- Incorporate D2L in the course.

5/14 – 8/15 **UNIVERSITY OF WEST FLORIDA** PENSACOLA, FL **Physics Lecturer** 

• Teach Physics courses in the Department of Physics

- Minority Speaker Award Grant
- Serve on the Resource Allocation Committee
- Developed lab manual for University and General Physics
- Incorporate elearning and Mastering physics into course.

1/13 – 12/13 **LEHMAN COLLEGE**, CUNY BRONX, NY **Lecturer (Visiting line)** 

- Teach Physics courses in the Department of Physics and Astronomy
- Teach Teacher Education/Methods/Supervision courses in the Department of Middle & High School Education, Science Teacher Education Program
- Grant & Proposal writing (Spencer Foundation proposal, 100K in 10)
- Collaboration and coordination between Science Education and Science Departments
- Develop curriculum aligned with the edTPA and Common Core State Standards
- Advise and mentor students
- Develop student research agendas
- Out-reach to local high schools
- Co-Developed STEM and English Language Learner (ELLs) course designed to develop skills in STEM educators to effectively meet the needs of ELLs in the mainstream STEM classroom
- Department and University Service: Accepted Student Open House; NYCTF mentoring and support; Science Education edTPA working group.

8/11 – 1/13
Talladega College, Talladega, AL
Natural Science and Mathematics Department
Physics Professor

- Teach and manage all physics and physical science courses/labs
- Noyce Principal Investigator
- Recruit non-traditional students into the STEM fields
- Mentor undergraduate students
- Curriculum review, revision and design
- Accreditation reports
- Mentor Department Projects
- Mentor Student with projects for scholarly publications
- Proposal and grant writing
- Serve on various college committees
- Setting up research facility

- Serve as a resource for undergraduate students
- Student advisement for STEM majors/minors

5/08 – 8/11 Alabama A&M University, Normal, AL Physics Department Graduate Teaching Assistant

- Teach and manage physical science courses
- Mentor undergraduate students
- Participate on various committees within the department
- Act as Primary Teaching Assistant
- Serve as a resource for graduate and undergraduate students

# 5/08 - 8/11

Alabama A&M University, Normal, AL

Center for Irradiation of Materials

# **Graduate Research Assistant**

- Perform Particle Induced X-ray Emission (PIXE), Rutherford Backscattering Spectrometry (RBS) and Cyclic Voltammetry (CV)
- Perform Auger Electron Spectroscopy (AES), X-ray Photoelectron Spectroscopy (XPS) and Raman spectroscopy
- Operate a NEC Pelletron tandem accelerator
- Experience with manufacturing glassy polymeric carbon and silicon carbide ceramics
- Developed research objectives and projects for high school summer interns
- Mentor undergraduate students with research

# 1/08 - 5/08

National Space Science and Technology Center (NSSTC), Huntsville, AL Graduate Research Assistant

- Participated in the Solar Ultraviolet Magnetograph Investigation (SUMI) sounding rocket program
- Characterized scientific CCDs employed on the SUMI sounding rocket
- Deployed and maintained a Clean Room

# 8/05 - 12/07

# **University of Alabama in Huntsville / Physics Dept.,** Huntsville, AL **Graduate Teaching and Research Assistant**

- Participated in the development of high-resistivity p-channel CCDs including measurements of carrier diffusion, intrapixel sensitivity variations, and internal electric field variations
- Gained experience with ultra-clean, UHV, cryogenic dewar operating down to 10<sup>-7</sup> torr
- Performed signal processing on digital images to extract spatial and photometric

data

- Appointed as the Physics Department Head Teaching Assistant
- Served as a resource for 25 graduate students and undergraduate Teaching Assistants
- Managed a department budget

# 8/04 - 8/05

West Lawn Middle School, Tuscaloosa, AL

# **Mathematics Instructor**

- Successfully ran and managed classes of up to 40 students each, several periods per day
- Interacted with parents, faculty, PTA members and community members
- Coached football and a math team; involved in other activities
- Developed math curriculum
- Prepared and executed lesson plans, assessments, prepared students for standardized assessments.

# 8/99 - 8/04

# **Computers Plus**, Tuscaloosa, AL

# **Computer Technician**

- Successfully ran and managed store and employees
- Functioned as Team Leader
- Performed hardware maintenance
- Conducted software and platform troubleshooting

# 8/99 - 5/01

# University of Alabama / Electrical Engineering Department, Tuscaloosa, AL Research Assistant

- Assisted in MEMs research project
- Simulated and executed various projects using Nitnol wire

# **SUMMARY OF QUALIFICATIONS**

- Material characterization related to the barrier in nuclear fuel research
- NEC 5SDH-2 Pelletron Tandem Accelerator operation
- Different characterization techniques including Rutherford backscattering Spectroscopy (RBS), Transmission electron microscopy (TEM) and Raman Spectroscopy
- Computer Languages: C/C++, IDL, Java, Pascal, Matlab and Fortran
- Computer Platforms: Windows, Unix, MacOS, and MS DOS
- Computer Software: MSOffice Suite, AutoCAD, Banner and others
- Detector development, vacuum systems, mechanical design and programmable logic controllers (PLC)
- Calibration, development and use of CCDs
- Ultra-clean systems, down to 10<sup>-7</sup> torr

- Design, build and test circuits and MEMS
- Knowledgeable of construction floor plan design, setup and blueprint reading
- Fluent in two languages (English and Arabic)
- Excellent decision making and leadership skills
- Experience with educational components and system of universities
- Grants and proposal writing
- Recruitment of under-represented students to STEM and STEM education.
- Teach secondary level science methods and field supervision courses.
- Coordinate STEM Education and Science Department initiatives.

# **SKILLS AND KNOWLEDGE**

<b>Computers</b> Fortran	Programming Languages:	C/C++, ]	IDL,	Java,	Pascal,	Matlab	and
	Platforms:	Windows, Unix, MacOS, and MS DOS					
	Software:	MSOffice	e Suite	e, Auto	CAD, B	anner, ot	hers
Experimental	Experiences include: NEC 5SDH-2 Pelletron tandem Accelerator, detector development, vacuum systems, mechanical design, PIXE, RBS, AES, XPS, IR spectroscopy, Raman and programmable logic controllers PLC						
Detectors	Experienced in calibration, development, and use of CCDs						
Vacuum Systems Experience includes ultra-clean systems, down to 10 <sup>-7</sup> torr							
Electronics	Experienced in designing, building and testing circuits						
Construction	Floor plan design and setup; blueprint reading						
Languages	Fluent in English and Arabi	ic					

# **GRANTS, CONTRACTS AND PROPOSAL WRITING**

- Alabama EPSCoR Graduate Research Scholarship Program (GRSP), 2008 2009, **\$25,000.00, Funded**
- Alabama EPSCoR Graduate Research Scholarship Program (GRSP), 2009 2010, **\$25,000.00, Funded**
- Alabama EPSCoR Graduate Research Scholarship Program (GRSP), 2010 2011, **\$25,000.00, Funded**
- American Physics Society (APS) Minority Speaker Grant, 2014, Funded
- Nuclear Energy University Programs (NEUP), Department of Energy, 2012 2015, Proposal in proceeding, \$300,000.00, Not Funded
- Major Research Instrumentation (MRI), National Science Foundation (NSF), 2012, Proposal in proceeding, **\$295,000.00, Not Funded**

- Department of Energy, Advanced Test Reactor as a National Scientific User Facility (ATR NSUF) 2012, Proposal in proceeding, **\$100,000.00, Not Funded**
- Alabama Launch Pad, Economic Development Partnership of Alabama Business Plan, 2008-2010, Not Funded
- Nuclear Energy Research Initiative (NERI), Department of Energy, partnership proposal, 2008 2011, **Not Funded**

# AWARDS & HONORS

- Three-time recipient of GRSP Award 2008-2011
- Certificate of Appreciation, STEM Day 2008, 2009, 2010
- STEM Day 1<sup>st</sup> place Outstanding Poster Award 2010
- STEM Day 1<sup>st</sup> place Outstanding Poster Award 2011
- Certificate of Appreciation, Huntsville Ion Beam Institute 2010
- Certificate of Appreciation, REU program, Alabama A&M University 2010
- Certificate of Appreciation, Department of Physics, UAH 2006
- 2010 Sponsor Award, 10<sup>th</sup> annual STTR/SBIR Conference 2010
- Certificate of Appreciation, NATO Conference 2010
- Who's Who Among Colleges and Universities 1998
- Certificate, Classroom Organization & Management Program (COMP) 2005

# **PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS**

- President, SPIE chapter at Alabama A&M University, 2009-2011
- President, MRS chapter at Alabama A&M University, 2008-2001
- Member, University of Alabama Alumni Association
- Member, University of Alabama in Huntsville Alumni Association
- Member, Alabama A&M University Alumni Association
- Member, Institute of Electrical and Electronic Engineers (IEEE)
- Member, The Minerals, Metals and Materials Society (TMS)
- Member, Materials Research Society (MRS)
- Member, The Society of Photo-Optical Instrumentation Engineers (SPIE)
- Member, American Astronomical Society (AAS)
- Member, American Institute of Physics (AIP)
- Member, National Society of Black Physicists (NSBP)
- Member, National Society of Hispanic Physicists (NHSP)

# **PROFESSIONAL AND UNIVERSITY SERVICE**

• Volunteer, Alabama Science in Motion

- Volunteer, Alabama Science and Engineering Fair (UAH 2008)
- Volunteer, STEM Day organization committee (AAMU 2009-2011)
- Student engagement committee (Talladega College 2011/2013)
- Resource Allocation committee (UWF 2014/2015)

# **PUBLICATIONS**

**Abunaemeh, M. A.**, Oluseyi, H.M., and Williamson, J.L. (2008). "Analysis of the Photometric and Astrometric Fidelity of Back Illuminated, High Resistivity p-Channel CCDs, Proc. SPIE 2008, 7106, 53, Publication Number: AAT 1455095. Source: MAI 46/05, Oct 2008.

**Abunaemeh, M. A.**, Oluseyi, H.M., and Williamson, J.L. (2009). "CCD Phase Dithering: A Technique for Improving the Efficiency of Subpixel Dithering," Publications of the Astronomical Society of the Pacific. Manuscript accepted.

**Abunaemeh, M. A.**, Malvoso, P., Oluseyi, H.M., and Williamson, J.L. (2010). "An Electronic Technique for Improving the Astrometric and Photometric Fidelity of Pixilated Space Observations," 2009 Joint Annual Conference of the National Society of Black Physicists and the National Society of Hispanic Physicists, AIP Conference Proceedings, Volume 1280, pp. 79-88 (2010).

**Oluseyi** H. M.; Abunaemeh M. A.; Williamson, J. A.; Malvoso, P., An Electronic Technique for Improving the Astrometric and Photometric Fidelity of Pixilated Space Observation, AIPC 1280, pp. 79–88, 2010

**Abunaemeh, M. A.**, Ila, D., Muntele, C., and Ojo, I. (2009). "The Study of Silicon Carbide Ceramics." Publication of the Materials Research Society, Mater. Res. Soc. Symp. Proc. Vol. 1181-DD13-06.

**Abunaemeh, M. A.,** Ila, D., Muntele, C., Ojo, I., Seif, M., Wang, L., and Yang, A.Y.(2009). "Characterization of Changes in Properties and Microstructure of Glassy Polymeric Carbon Following Au Ion Irradiation." Publication of the Materials Research Society, Mater. Res. 2010 Soc. Symp. Proc. Vol. 1215, V16-26

**Abunaemeh, M. A.**, Seif, M., Elsamadicy, A., Ashok, B., Yang, Y., Wang, L., Muntele, C., & ILA, D. (2011)." Characterization of Au irradiation glassy polymeric carbon at 2000°C for nuclear applications." In V. Ashok, B. Braman, & P. Susmann, (Eds.) Technological Innovations in Sensing and Detection of Chemical, Biological, Radiological, Nuclear Threats and Ecological Terrorism. Berlin: Springer.

**Abunaemeh, M. A.,** M., Seif, M., Elsamadicy, A., Muntele, C., & ILA, D. (2011). "Structural modifications and mechanical degradation of ion irradiated glassy polymer carbon." AIP Conference Proceedings, 1336(1), 219-221.

**Abunaemeh, M. A., M.**, Seif, M., Elsamadicy, A., & ILA, D. (2011). "Structural and Mechanical Characterization of Ion Irradiated Glassy Polymeric Carbon for TRISO Fuel Nuclear Application.", Radiation Effects and Defects in Solids, Journal of the International Materials Research Congress, manuscript submitted and accepted.

# **PUBLISHED ABSTRACTS AND PRESENTATIONS**

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., Muntele, C., Ojbara, K., Ojo, I. and et.al., "Glassy Polymer Carbon and Silicon Carbide to be Used in the TRISO Fuel", ICAM2009 Conference, September 20-25, 2009, Rio de Janeiro, Brazil.

**Abunaemeh, M. A.,** Ila, D., Muntele, C., Ojo,I., and Seif, M., "Microstructure Characterization of Silicon Carbide Ceramics," SMMIB 2009 Conference, September 13 - 18, 2009, Odaiba, Tokyo, Japan.

**Abunaemeh, M. A.,** Ila, D., Muntele, C., Ojo, I., and Seif, M., "Characterization of Changes in Properties and Microstructure of Glassy Polymeric Carbon Following Au Ion Irradiation", SMMIB2009 conference, September 13 - 18, 2009, Odaiba, Tokyo, Japan.

**Abunaemeh, M. A.,** Ila, D., Muntele, C., Ojo, I., and Seif, M., "Study of Silicon Carbide Ceramics," 2009 MRS Spring Meeting, April 14 - 16, San Francisco, CA.

**Abunaemeh, M. A.,** Ila, D., Muntele, C., Ojo, I., and Seif, M., "Structural Modifications Ion Irradiated Glassy Polymer Carbon", TMS 2009 Annual Meeting & Exhibition, February 14-18, 2009, San Francisco, CA.

**M. Abunaemeh**, Ila, D., Muntele, C., Ojo, I., Seif, M., Wang, L., Yang, A.Y., "Characterization of Changes in Properties and Microstructure of Glassy Polymeric Carbon Following Au Ion Irradiation," MRS Fall 2009, Boston MA.

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., Muntele, C., Ogbara, K., Ojo, I. and et al. "Structural Modifications and Mechanical Degradation of Ion Irradiated Glassy Polymer Carbon," TMS 2010 Annual Meeting & Exhibition, February 14-18, 2010 Washington State Convention Center, Seattle, WA.

**Abunaemeh, M. A.,** Elsamadicy, A. Ila, D., Muntele, C., Seif, M., "Characterization of Properties and Microstructure of Glassy Polymeric Carbon Following Ag Ion Irradiation," MRS Fall 2010, Boston, MA.

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., Muntele, C., and Seif, A., "Characterization of Glassy Polymeric Carbon Irradiation", MRS Spring 2010, San Francisco, CA.

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., Muntele, C., and Seif, A., "Structural Modifications and Mechanical Degradation of Ion Irradiated Glassy Polymer Carbon", TMS 2010 Annual Meeting & Exhibition, February 2011, San Diego, CA.

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., Muntelea, C., and Seif, M., "Structural Modifications and Mechanical Degradation of Ion Irradiated Glassy Polymer Carbon," CARRI 2010, Dallas, TX.

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., and Seif, M., "Characterization of Silicon Carbide Ceramics After Irradiation for Nuclear Applications." MRS-Mexico 2010, Cancun, Mexico.

Abunaemeh, M. A., Elsamadicy, A., Ila, D., Seif, M., Yang, Y.A., "Characterization of Glassy Polymeric Carbon After Ion Irradiation," TMS 2011, San Diego, CA.

**Abunaemeh, M. A.,** Ila, D., Muntele, C., Ojo, I., Seif, M., Wang, L., and et al.; " Characterization of Properties and Microstructure of Glassy Polymeric Carbon Following Ag Ion Irradiation," MRS Spring 2011, San Francisco, CA.

**Abunaemeh, M. A.,** Elsamadicy, A., Ila, D., Seif, M., "Characterization of Properties and Microstructure of Glassy Polymeric Carbon Following Ag Ion Irradiation," MRS fall meeting, San Francisco, CA, 2011.

# **Teaching Statement and Philosophy**

One of the main reasons for my academic career is to have opportunities to teach and work with students and to develop new educational materials and techniques that the student will benefit from. My academic background, teaching experience and research career makes me well suited to teach Mathematics, Physics and Science courses in both introductory and advanced levels to various types of students.

Over the last decade, I have dedicated much of my time to teaching and mentoring students by help developing courses, educational materials and hands on experience. As a result, I have acquired extensive teaching experience over the years at the undergraduate and graduate level as a professor and instructor at the University of Alabama in Huntsville, Alabama A&M University, Talladega College and Lehman College City University of New York. During my years at these institutions, I had the opportunity to be in the centre development of several courses, programs and teaching materials that served of great benefit for the students.

One of most important things that we can show and teach our students is that science is interesting, relevant and fun. It is easy to teach a student who is curious, eager and interested to learn. Unfortunately, not all students have the same state of mind and interest when they arrive in the classroom. It is the responsibility of the teacher to present the subject in an interesting and engaging manner that shows the elegance, beauty and fun of math, physics and different branches of science along with real world applications.

The teacher should also help the student gain the knowledge needed to applicability solve real-world problems and to nurture each student's talent and desire to learn. This starts by teaching students how to approach the subject especially for introductory-level courses. In Introductory science and math courses, the student is thought basic and general concepts associated with the subject that would serve as a foundation that will help with their education. It is the responsibility of the teacher that the student always understands the concepts and applies the subject matter in a way that would be beneficial for the student. New techniques should be introduced to illustrate and implement higher-level concepts to achieve more in higher-level courses; I believe that the emphasis should be on collaboration, planning, critical review and design of projects that are the work of individual or a group of students.

When students are grouped, they learn to organize and work as teams which helps them eliminate any obstacles that they might face in a project and to enhance their skills needed to complete the project.

#### **Teaching Style**

My personal style of teaching is based on the following principles:

- 1. **Engage the students**: Students must be active participants in the classroom where they are encouraged to interact rather than passive observers. This is a really important element for lecture courses.
- 2. **Grading**: Establish fair and clear grading policies. Despite the efforts to inspire students to learn simply for the joy of learning, a fair and proper grading and assessment policies is needed to guide these students to focus their attention on the essential points that is needed to learn. The grading policies need to be fair and relevant to the objectives of the course. The Grading must be flexible so that it would help the student achieve and not discourage the student from the subject.
- 3. **Set clear goals**: Students respond best to goals that are both challenging and achievable. Extremely easy assignments are boring, allow students to become careless, and do not give the students any sense of accomplishment. And vice versa, excessively difficult assignments are frustrating and intimidating.

- 4. **Identify misconceptions early**: Once a misconception takes root, it is difficult to remove. Waiting until the next assignment or test might make the subject difficult for the student which might lead to the student resenting the subject. It is very important to identify misconceptions early and fix it as soon as possible.
- 5. **Students make mistakes**: Learning what doesn't work is just as important as learning what does. Students learn more from understanding why an incorrect answer is wrong rather than memorizing the correct answer. Experimentation is essential to education. Students are encouraged to make mistakes and then discover why it is a mistake and how to fix it correctly.
- 6. **Respect the student**: Each teacher must respect the goals, needs, and individuality of each student and help each student do his or her best to achieve these goals. Students come from different background and they do not have the same level of preparation as some other students do. Teachers must also respect that students have other interests and engage in time-consuming activities outside of the classroom.

A good way to engage students and identify misconceptions quickly is to give very short quizzes during class following the discussion or the next class. These quizzes show how well does the student understand the material and get the attention of the students. One of the crucial elements of engagement is that students must have the freedom to tell the teacher when they are lost or confused. In addition to quizzes, I use class interaction and examples solved with the help of the students. I consider creating new assignments to be the most interesting and rewarding part of course development. The assignments must be interesting and relevant in order to engage the students, and they must match the ability and background of the students. Assignments must also be presented in a manner that explains clearly and unambiguously what the students are expected to do and how their answers will be evaluated. The assignments must also provide some amount of guidance about how the concepts the students have been learning can help them to do the assignment.

# REFERENCES

1. James Miller Chair, Department of Physics University of Alabama in Huntsville Huntsville, AL 35899 256-824-2482 phchair@uah.edu

# 2. Emanuel Waddell

Dean, College of Science University of Alabama in Huntsville Huntsville, AL 35899 256-289-1414 <u>Emanuel.waddell@uah.edu</u>

#### 3. Margo Dellicarpini

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# 4. Themistoklis Chronis, Ph.D.

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#### 5. Khalid Tantawi, Ph.D.

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#### 6 Dan Kabat Professor and Chair, Department of Physics and Astronomy Lehman College, CUNY 250 Bedford Park Blvd. Bronx, NY 10468

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#### 7 Hakeem Oluseyi, Ph.D. Visiting Professor Massachusetts Institute of Technology Cambridge, MA 02139 <u>hmoluseyi@gmail.com</u> 510-646-7732

#### 8 Daryush Ila, Ph.D. Vice provost North Carolina at Fayetteville State University Fayetteville, NC daryushila@aol.com 256-651-9603

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