A MESSAGE FROM THE PRINCIPAL INVESTIGATOR

These past few months have been extremely busy at the Optical Science Center for Applied Research. We, as faculty and staff, are extremely proud of our students, their tremendous work, and unmatched accomplishments.

First and foremost, to our students moving on: On behalf of the faculty at Delaware State University, it was our pleasure to be your professor, mentor, and advisor. We hope that you embrace your future endeavors with the same vigor, determination, and enthusiasm that has enabled you to achieve all you have to this point. Keep up the great work!

Many thanks to all of our guest speakers that have allowed the OSCAR Seminar Series to flourish. OSCAR students and faculty alike have benefited from the information shared during these extraordinary lectures.

I would personally like to thank Ms. Jacquelyn Jones and the entire faculty, staff, and students for undertaking the monumental task of co-hosting the annual Kent County Science Fair. We could not have done it without your support.

Enjoy this issue of LightView, and as you learn more about our programs, may you also learn more about your world!

Best Regards,

Mukti M. Rana, PhD.
Principal Investigator
NASA-MIRO, O*STAR
NSF-CREST, CREOSA

In the SPOTLIGHT

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Seminar Series: Spring 2017 Edition

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Science Fair 2017 - Summer High School Optics Program
The seminar room on the first floor of the Optical Science Center of Applied Research has become an exciting place for scientists to speak about their current ongoing research.

From human tissue to interplanetary rock structures, high performance imaging has unlocked never-before-seen areas for scientists to explore.

The aim of the seminar series is to bring world-renowned scientists to Delaware State University for prospective collaboration and enhance student learning and motivation.

Delaware State University students and professors are in attendance as professors from various sectors of the science community present the latest scientific data in their respective fields.

A very special thank you to all who have contributed to OSCAR Seminar Series.
"Elevator Slam" - Undergraduate Presentations

Mastering the elusive art of the elevator pitch is a tough task within itself.

Now, if you will, imagine having to pitch an entire science research experiment in under three minutes. This was precisely the challenge for OSCAR students.

All participants received a $10 gift card with the winner receiving an additional $20 gift card.

"For years, elevator pitches have been used to succinctly express the purpose of a product, service, agency...

... and, most importantly, to ensure the intended recipient understands the value."

Continued →
The End is Near: Students deliver defenses

The OSCAR building has been abuzz lately as the light at the end of the tunnel becomes more visible for graduating students.

However, before students can graduate and enjoy "all the rights and privileges thereunto appertaining," they must complete the grueling task of preparing thesis and dissertation defenses.

These devoted students have successfully fulfilled all requirements to now represent OSCAR in the science world. We would like to recognize our remarkable staff who mentored and developed our students in their respective areas.

Regardless the obstacles and sacrifices, we are proud of the endurance displayed in each and every graduate and they have proven themselves as worthy of their new titles.

Job well done.
Now that the hard work is complete (or just beginning), we would like to introduce you to our 2017 graduating class.

The commencement ceremony took place on May 13th and was held indoors to avoid a pending wet forecast. However, no amount of inclement weather would deter these students from arriving gleefully in anticipation of moving their tassels.

All of the hard work, diligence, and sacrifice has paid off.

Many envision graduation as the end of road, but for these scholars, it is truly a new beginning.

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**B.S. GRADUATES**

- Mr. Deshaun Crawford
  - Computer Science
  - Mentors: Dr. Gary Holness & Dr. Jun Ren

- Mr. Dontray Dowdell
  - Physics & Mathematics
  - Mentor: Dr. Mukti Rana

- Ms. Kaiemah Mond
  - Engineering Physics
  - Mentor: Dr. Yuriy Markushin

- Mr. Emmanuel Morris
  - Engineering Physics
  - Mentor: Dr. Amir Khan

- Mr. Andrew Voshell
  - Physics & Mathematics
  - Mentor: Dr. Mukti Rana

- Mr. Jayvaun Young
  - Information Technology
  - Mentor: Dr. Amir Khan

**M.S. GRADUATES**

- Mr. Michael Davis
  - Physics & Engineering
  - Mentor: Dr. Amir Khan

**PH.D. GRADUATES**

- Dr. Fatima Boukari
  - Applied Mathematics
  - Mentor: Dr. Sokratis Makrogiannis

- Dr. Elton Jhamba
  - Optics
  - Mentor: Dr. Hacene Boukari

- Dr. Zakaria M’Rah
  - Optics
  - Mentor: Dr. Hacene Boukari

- Dr. Piyush Sharma
  - Applied Mathematics
  - Mentors: Dr. Gary Holness

- Dr. Zachary Warren
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  - Mentor: Dr. Gour S. Pati

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OSCAR Students Visit National Research Centers
NASA Goddard Space Flight Center, Los Alamos Nat’l Laboratory and more

OSCAR research students were able to visit other research facilities, gain knowledge of other science disciplines, and experience a professional laboratory environment in the field.

- Julius Williams of the Department of Physics and Engineering (DPE) traveled to Richmond, VA to take a look at the Pacific Northwest National Laboratory (PNNL). PNNL is a facility that focuses on energy for the environment and national security.

  Julius gave more insight about his experience:

  "The work experience was great. There was always something to learn different, and people there almost always accepted help from interns who wanted something else to do.

  The work experience was probably one of my highlights of the internship."

- Victoria Wilson, also of DPE, went to Oak Ridge, TN to experience the work of Y12: a facility where their focus is based on National Security to make the nation a safe place to live. It avoids the use of nuclear weapons as well.

- Shakeel Jeffcoat, again of DPE, went to Wallops Flight Facility of NASA in Wallops Island, VA. The facility meets the needs for scientific research in aerospace technology.

- Amina Gauff and Shamia Pamplin of the Biology department both were able to travel from the east coast to check out the Los Alamos National Laboratory (LANL) in New Mexico. LANL design classified nuclear weapons, with a mission to protect national security, energy, and environmental management.

- Curtis Hite and Charles Locke (CIS), Jason Cornelius (Math Grad), Richard Garner and Andrew Voshell traveled to Goddard Space Flight Center of NASA in Greenbelt, MD. The center has many scientists and engineers who build spacecraft, instruments and new technology to study Earth, the sun, our solar system and the universe.
OSCAR Co-Hosts 2017 Kent Co. Science Fair

OSCAR co-hosted the Annual Kent County Science Fair for the fifth consecutive year.

OSCAR faculty, staff, and students assisted in the coordination of the event, spearheaded by Ms. Jacquelyn Jones.

Outreach Spotlight - Continued

69TH DELAWARE VALLEY SCIENCE FAIR WINNERS ARE:

Campus Community Charter School
Alec Rodriguez - Honorable Mention in Consumer Science

Milford Central Academy
Jackson Caldwell - United States Armed Forces Award
Steven Schwan - Honorable Mention in Environmental Science

Photo: DSU’s Dr. Amir Khan (L) and Dr. Charlie Wilson (R) present OSCAR summer 8-week internships to high school students and $1500!

Polytech High School
Ashish D’Souza - 3rd Place in Mathematics

Stonegate Academy
Brendan Lewis - Honorable Mention in Behavior & Social Sciences

William Henry Middle School
Qwantez Watkins - Honorable Mention in Botany

CONGRATULATIONS ON A JOB WELL DONE!
High school students complete Optoelectronics Summer Program

During the week of June 27 to July 1, four local high school students (Figure 1) engaged in a hands-on optoelectronics project. The mission was to build a system capable of controlling a computer fan activation time. Of course, a brief single laser pulse would serve as the trigger!

The program took place in Room 211(EE Lab) in Mishoe Science Center South. The program was an OSCAR-sponsored event that awarded each student a stipend! So, the students not only had fun while they learned, but were also financially rewarded for their efforts.

Around 1:45 PM on Friday, we headed to the OSCAR building (Figure 6), where Dr. M. Amir Khan, Assistant Professor (Figure 7), discussed his latest laser research involving greenhouse gas emission sensors (try to say that fast, three times!).

After the presentation, he gave us a guided tour of the OSCAR building. What a great way to end the day!

Thank you Dr. Khan.
To all who contributed to this edition of LightView,