

**For Immediate Release**

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**The New York City Section of the Illuminating Engineering Society  
Announces the Three Recipients of the 2019 Thesis Awards**



**Aldo Jacques Espina**



**Dinusha Thotagamamuwa**



**Ying Zhong**

The New York City Section of the Illuminating Engineering Society (IESNYC) honored **Aldo Jacques Espina**, Master of Fine Arts in Lighting Design, Parsons School of Design at the New School; **Dinusha Thotagamamuwa**, Ph.D. candidate at the Lighting Research Center (LRC) of Rensselaer Polytechnic Institute (RPI), and **Ying Zhong**, Master of Professional Studies in Lighting Design at the New York School of Interior Design (NYSID), on May 17, 2019 when they presented their theses to an audience of New York City lighting professionals. The Section will award each student \$2,000.

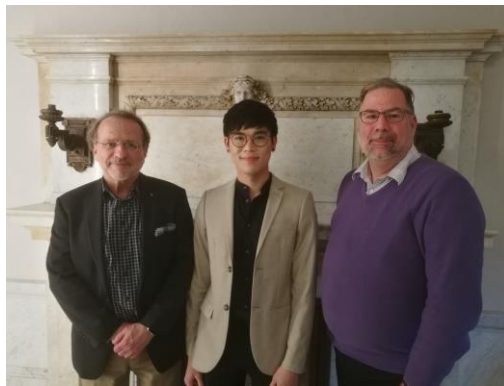
The Thesis Awards recognizes degree candidates at graduate-level lighting programs in New York State. Selected by their professors, each one of the three theses demonstrate excellence in design and/or research, and represent the intellectual insight, rigor, and quality standards as set forth by their respective school departments and each student's thesis committee.

“The IESNYC Thesis awards present an opportunity for our lighting community to have a first-look and see the innovative thinking the future leaders of our lighting industry are investigating, says **Mike Barr**, MIES, vice president of the IESNYC and an account manager at Lutron. “The IESNYC is celebrating almost a decade of recognizing the hard work and talent with the Thesis Awards. Over the years, the IESNYC has acted as a conduit, encouraging the recipients to present their work on a much larger platform at the IES National Conference. We also assist them with subsidies if they are selected to present.”

“The IESNYC has been a strong voice for education within the lighting community,” says **Caleb McKenzie**, LC IALDA, MIES, president of the Section and a principal of US Lighting Design. “Our annual Thesis Prizes are another way our Section can support future innovators and leaders in the lighting industry. In addition to the Thesis Awards, the IESNYC programs offer year-round educational courses for members and professionals in lighting and energy as well as allied fields. We also sponsor the annual Student Lighting Competition, the Richard Kelly Grant, and the IESNYC Merit Scholarship.”

**Zachary Pearson** ([https://iesnyc.org/2018\\_Scholarship](https://iesnyc.org/2018_Scholarship)), the 2018 IESNYC Merit Scholarship recipient who received his Masters in Lighting Design at the LRC at RPI, was the event's keynote speaker. He *presented* “Public Light Art and Community Engagement Through Civic Light,” his Thesis Project, which explored eight lighting festivals in North America and Europe, culminating in a discussion about Winter Lumify, a festival he produced in Troy, NY. He was able to complete this project, in part, thanks to the money he received from the Section for winning the Merit Scholarship.

## **About the 2019 Thesis Awards Recipients and Their Projects**



(l to r) Craig Bernecker Aldo Jacques Espina, Mike Barr

**Aldo Jacques Espina** holds a bachelor's degree in architecture from the University of San Carlos in Cebu, Philippines. He decided to pursue a master's degree in Lighting Design at the Parsons School of Design after noticing the lack of lighting designers in the Philippine. He is a recent recipient of an award from the Nuckolls Fund for Lighting Education. While studying he was also an intern in lighting design at Syska Hennessy Group. After immersing himself in the lighting design profession, he plans to continue working as a lighting designer and aspires to bring awareness to the importance of lighting in the built environment.

### **Thesis Title: "Evaluating Mean Room Surface Exitance"**

This thesis explores how today's lighting design practices are moving from merely considering visual performance to taking into account perception of brightness and the overall lit appearance of the space. The most widely used metric for evaluation remains one that focuses only on the former, horizontal illuminance. Recently, however, a method was developed by Christopher Cuttle employing luminous exitance as the principal metric to assess adequacy of illumination and appearance. While this new methodology has been generally well received and previous tests have proven the superiority of the new metric MRSE to illuminance, before the concept can be adopted into industry standards the idea must be tested against the reality of modern lighting design. Most designed spaces are planned with the idea of creating visual interest in space through hierarchies of illumination. The objective of this study is to assess the relationship of MRSE to PAI and spatial brightness in such schemes employing the concept of TAIR to emphasize a specific room surface within each scene. It also evaluates the influence of

specific room surfaces in one's field of view to both PAI and spatial brightness in an attempt to quantify the impact of individual room surfaces to brightness perception.

*“Aldo’s work with Mean Room Surface Exitance (MRSE) is especially timely as the IES is exploring this metric as a possible replacement for illuminance for specifying lighting levels in architectural environments, says **Craig A. Bernecker**, Ph.D., LC, FIESNA, program director and associate professor of lighting design, MFA Lighting Design Program, Parsons School of Design.” “His work is representative of the kind of research necessary to thoroughly understand if MRSE is a viable alternative to illuminance.”*



(l to r) N. Narendran, Dinusha Thotagamuwa, Mike Barr

**Dinusha Thotagamuwa** is currently a Ph.D. candidate at the Lighting Research Center (LRC) of Rensselaer Polytechnic Institute (RPI) in Troy, NY, presenting his thesis during the month of May 2019. He earned a M.S. degree in Lighting from RPI in 2015, and a B.S. degree in Electrical Engineering from University of Moratuwa, Sri Lanka, in 2010. He is the recipient of RPI’s Founders Award (2015); Besal academic award from Acuity Brands (2016); and ARCC/King Student Medal (2016). His research interests include energy efficient lighting, LED system reliability, and connected lighting systems.

**Thesis Title: "Investigating LED Driver Output Electrical Parameter Changes Due to Failing Electronic Components"**

The lighting industry is presently very interested in connected and intelligent lighting systems. Some of the advanced lighting systems are now offering a number of benefits to the building managers and occupants. Lighting fixtures that have the capability to signal system failure ahead of time can inform building managers to take timely maintenance actions. Since the LED driver is one of the weak subassemblies in an LED fixture, projecting its remaining useful life is a valuable feature for creating intelligent lighting systems. Electrolytic capacitor and MOSFET are two components in an LED driver that fail frequently. In this thesis study how these component failures affect the output electrical parameters of an open-loop switched mode LED driver was investigated to better understand how these electrical parameters can be measured in real time and used for predicting lighting system failure.

*“Dinusha’s thesis was selected for its importance to the future of sustainable, intelligent buildings”, says **N. Narendran**, Ph. D., FIES, professor, and director of research & education at Rensselaer’s Lighting Research Center. “Through a careful examination LED system failure and the potential for a measurable parameter to indicate failure ahead of time, Dinusha’s research provides new and useful knowledge for creating solutions for advanced buildings.”*



(l to r) Shaun Fillion, Ying Zhong, Mike Barr

**Ying Zhong’s** Master of Professional Studies in Lighting Design (MPS-L) is the second master’s degree that she has earned at NYSID. In 2017, she received a Master of Fine Art in Interior Design. After graduation, she designed multi-family, restaurant, and office projects for a year, during which time she became more and more interested in the way lighting effect the interior spaces. This led her back to NYSID for a second master, this time to study lighting. In her designs, she loves to play with multiple layers of light and different controls to achieve unique experiences. She also holds a Bachelors Degree from Beijing Forestry University in wood science and technology, which gives her a better understanding of working with natural materials.

***Thesis Title: A Posture in Time: Lighting for a School of Theatre***

In the theatre, the movement of each performer presents the story. Cameras can capture each second of those movements, creating stroboscopic frames of motion. Inversely, a series of fixed images present a posture changing through time. In the theatre school, this can be translated to

lighting treatments through space, such as using unique fixtures, enhancing architecture elements, and using light controls and interactive design elements to evoke a sense of motion.

*“Ying's design translates motion into light, considering both the patterns of luminaires in space and the sequencing of light effects over time,” says **Shaun Fillion**, LC, IALD Educator, MIES, program director, MPS-L Lighting Design at NYSID. “Her lighting is the star performer at this theatre arts school.”*



(l to r) Caleb McKenzie, Zachary Pearson, Aldo Jacques Espina , Dinusha Thotagamuwa , Ying Zhong, Mike Barr

Note: The thesis presentations, as well as the video of the three presentations are available for viewing upon request.

*About the IESNYC*



**IES NEW YORK CITY SECTION**

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*The IESNYC ([www.iesnyc.org](http://www.iesnyc.org)) is the New York City Section of the Illuminating Engineering Society. The IESNYC is a volunteer professional membership organization whose members share a mutual appreciation for and fascination with, all things lighting. They are lighting designers, architects, engineers, consultants, lighting manufacturers, lighting representatives, electrical distributors and allied professionals. IESNYC members are dedicated to promoting the art and science of illumination engineering to their members, professionals, the lighting industry, and the public through inspiring events, informative programs and educational series, social outreach, and networking opportunities.*

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