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For Immediate Release
May 23, 2018
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The New York City Section of the Illuminating Engineering Society Announces the Three Recipients of the 2018 Thesis Prizes

JESSICA COLLIER

CHONLATORN (TAN) PORNPRAPHAN

OLIVIA PRIVITERA

The New York City Section of the Illuminating Engineering Society (IESNYC) awarded its annual Thesis Prizes to **Jessica Collier**, Master of Fine Arts in Lighting Design, Parsons School of Design at the New School, to **Chonlatorn (Tan) Pornpraphan**, Master of Professional Studies in Lighting Design – New York School of Interior Design (NYSID), and to **Olivia Privitera**, Master of Science in Lighting, Lighting Research Center, Rensselaer Polytechnic Institute (RPI) School of Architecture.

The Thesis Prize recognizes degree candidates at graduate-level lighting programs in New York State. In 2018, the Thesis Prize was expanded to include the New York School of Design (NYSID) in addition to Parsons and RPI. Selected by their professors, 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. All three recipients presented their thesis projects on May 17, 2018 and will receive an award of $1,000.

"Each year our Section challenges professors to select student's thesis that represents thought provoking, innovative, and exciting research, says Mike Barr, vice president of the Section, chair of the Scholarship Committee and a senior account manager at Lutron. "While the presentations are from different areas of focus, each one identifies and studies a real-world program. We are proud to be able to facilitate the presentation of the thesis projects, award the students, and offer them subsidies to present at the IES National Conference."

"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 Prizes, 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."

About the 2018 Recipients and Their Theses Projects

Jessica Collier graduated from Rensselaer Polytechnic Institute with a Bachelor of Architecture and a minor in Civil Engineering. While at RPI, Jessica began working for Jan & Brooke, Luminae and discovered her passion for lighting. She enjoys exploring the technicalities, science, and details that define the success of each design problem or project. She plans to continue working with Jan & Brooke after graduation.

Thesis Title: Perception of Metrics: The Intersection of Color Characteristics and Qualities Guided by Preference

These new functions and capabilities have created a more complex language surrounding the description and specification of a light source. The intent of this thesis is to study the relationship between color characteristics of tunable LED sources and subjective impressions and preferences in order to understand the implications and perceptual differences of color metrics associated with an LED source. This information can become a new tool or method of communication both within the lighting community and for end-users.

"Jessica Collier's thesis reveals challenges in understanding the varied qualities of tunable light sources currently available in the consumer market and poses important questions about how to communicate these characteristics to the public," says Glenn Shrum, director MFA Lighting Design, Parsons School of Design. "As the availability of increasingly complex lighting technology expands to retail markets, her research exemplifies how lighting designers can educate their communities about how good lighting can positively impact their daily lives."

Chonlatorn (Tan) Pornpraphan completed his undergraduate work in interior design in Bangkok, Thailand. He then decided to pursue a masters degree in lighting design because he believes that lighting can enhance objects and spaces. He plans on becoming a lighting designer, so he can use the knowledge he learned at NYSID. He would also like to try something besides architectural lighting, such as lighting installation arts, lighting for concert stages, and create light art.

Thesis Title: Adidas Flagship Store project uses lighting design to draw people into a retail store.

Using a proposed flagship store for Adidas as an example, he incorporated the lines, used in all running tracks into the design. As running shoes were the company's first product, the lines evoke the company's beginnings. The lines appear in the lighting fixtures and from the beams of light emanating from them. The lines are always connected to the number three, because it also represents Adidas's three-stripped log

"Tan's background in interior design and event design informs his thesis project. The relationship of customer to the lighting transforms with each subsequent level of the store, shays Shaun Fillion, LC, program director, MPS-L Lighting Design, NYSID. "At times playful, at other times edgy, the lighting is layered to meet appropriate retail lighting targets while also encouraging customers to explore each floor. Perhaps my favorite feature are the concealed grazers that skate across the third floor, highlighting the shoes of the customers and reinforcing the awesomeness or worn condition of their own shoes."

Olivia Privitera graduated from The State University of New York at Potsdam Summa Cum Laude with a Bachelor of Arts in Studio Art in 2010. In 2014 she enrolled in the Master of Fine Arts program at the State University of New York at New Paltz and completed her M.F.A in Painting & Drawing with Honors in 2016. During her studies at New Paltz, Olivia also worked with Advanced Manufacturing technologies as a Graduate Assistant to generate 3-D printed product designs and prototypes for private clients. Olivia's artistic interests in the study of light and 3-D printing applications for product manufacturing and design led her to the Lighting Research Center in August 2017. During her M.S. studies at the LRC, Olivia was also a Research Assistant working with 3D printable fixture design - investigating polymer composite materials and 3D printing parameters for functionalized components in LED systems. Integrating functional 3D printed components into unique fixture design to add visual appeal remains her primary interest moving forward, she will work at the LRC for the summer of 2018 to continue these studies.

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Thesis Title: Layer height effect on thermal performance of 3D printed components for LED heat sink applications in LED fixtures.

In LED fixtures, heat sinks are commonly used to keep the LED junction temperature low for optimum system performance. The problem is that heat sinks are typically aluminum, heavy, and expensive. A possible solution is polymer composite heat sinks using 3D printing. The outcome of this study contributes important knowledge to LED luminaire development using advanced 3-D printing and exploring how the function of an LED lighting system's management component can be tailored for performance by adjusting the 3-D print parameters to produce aesthetically pleasing LED lighting luminaires.

"Olivia's project was selected for the thesis award because of her holistic, scholarly approach to identifying the knowledge gap, developing a hypothesis, and designing and executing the experiment, data collection, analysis, and discussion of results, says Professor N. Narendran, Ph.D., director of research, director of graduate education programs, LRC. "The outcome of her study contributes important knowledge to LED luminaire development using advanced 3-D printing. She did excellent work in exploring how the function of an LED lighting system's thermal management component can be tailored for performance by adjusting the 3-D print parameters to produce aesthetically pleasing LED lighting luminaires. These developments hold promise for adding value to the solid-state lighting industry by allowing for mass customization of luminaires at a lower cost."

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