2018 Alan Barrett Prize

**Kishore Patra** SB ’18

Thesis supervisor: Nevin Weinberg

The award, established by students, friends, relatives, and colleagues of the late Professor Alan Barrett, honors his outstanding influence in the education of physicists and his fundamental contributions to the science and technology of astrophysics. A $1,000 prize is awarded annually to a senior undergraduate or graduate in Astrophysics.

2018 Malcolm Cotton Brown Award

**Talia Weiss** SB ’18

Thesis supervisor: Joseph Formaggio

Research supervisor: David Kaiser

Awarded to a senior of high academic standing in physics who plans to pursue graduate study in experimental physics. Given in memory of Lt. Malcolm Cotton Brown, Royal Air Force, who was killed in service on July 23, 1918. The fund currently provides a prize of $1,000.
2018 Morse/Orloff Award
Cyuan-Han Chang SB ’18
Research supervisor: Marin Soljačić
One thousand dollars is given in memory of Philip Morse, Professor of Physics, MIT, to a senior of high academic standing who plans to pursue graduate work in physics, with funds provided by Dr. and Mrs. Daniel Orloff in memory of their son Joel, a Physics major, who died in an automobile accident shortly after graduation from MIT in 1978.

The Order of the Lepton Award
Caitlin Fischer SB ’18
Academic advisor: Ibrahim Cissé
Awarded to a graduating senior who best exemplifies the spirit and characteristics of MIT’s Physics students. Established with gifts from alumni and friends of the Department, the Order of the Lepton embodies the community and collaboration that is one of the hallmarks of the MIT Physics Department. The fund provides a prize of $1,000.
2018 Burchard Scholars

Vilhelm Andersen Woltz SB ’20, Physics
Emma Bingham SB ’19, Physics
Daniel Guberek SB ’19, Physics
Lawson Kosulic SB ’19, Physics
Ivy Li SB ’20, Physics
Nolan Peard SB ’19, Physics & Music
Ethan Vo SB ’19, Physics
Michelle D. Xu SB ’20, Physics

The Burchard Scholars Program brings together distinguished members of the faculty and promising sophomores and juniors who have demonstrated excellence in some aspect of the humanities, arts, and social sciences, as well as in science and engineering. The Burchard Program format is a series of dinner-seminars held during the academic year to discuss topics of current research introduced by MIT faculty members. The Program is sponsored by the Dean’s Office, School of Humanities, Arts, and Social Sciences.

2018 Joel Matthew Orloff Awards

Research
Haoyu Guo SB ’18
Thesis supervisor: Leonid Levitov

Scholarship
Chitraang Murdia SB ’18
Thesis supervisor: Marin Soljačić

Service
Caitlin Fischer SB ’18
Academic advisor: Ibrahim Cissé
Amir Karamlou SB ’18
Academic advisor: Marin Soljačić
The Joel Matthew Orloff Awards were established by Dr. and Mrs. Daniel Orloff in memory of their son Joel, a physics major, who died in an automobile accident shortly after graduation from MIT in 1978. One thousand dollars is awarded to each of several physics majors in the following three categories:

**Scholarship**—given to the student with either the highest GPA in physics courses or, if a tie, the highest overall GPA.

**Research**—given to the student with the most outstanding senior thesis.

**Service**—given to the student with the most outstanding service to the Department, Institute, or community.

2018 Joseph Matthew Orloff Award for Research winner Haoyu Guo (left).

2018 Joseph Matthew Orloff Award for Scholarship winner Chitraang Murdia (right).

2018 Joseph Matthew Orloff Award for Service winners (from left) Caitlin Fischer, Amir Karamlou.
**2018 Sigma Pi Sigma Inductees**

Andrew Bent  
Lee Bernick  
Lotta-Gili Blumberg  
Cyuan-Han Chang  
Hannah Diehl  
Haoyu Guo  
Joseph Lin  
Ian MacFarlane  
Chitraang Murdia  
Jack Spilecki  
Vickie Wang  
Duncan Wheeler
2018 Phi Beta Kappa inductees.

2018 Phi Beta Kappa Inductees

Abdurrahman Akkas
Lotta-Gili Blumberg
Cyuan-Han Chang
Hannah Diehl
Panagiotis Dimakis
Haoyu Guo

Joseph Lin
Ian MacFarlane
Andrés Mier Valdivia
Rachel Morgan
Chitraang Murdia
Kishore Patra

John Peurifoy
Jack Spilecki
Vickie Wang
Talia Weiss
Other Undergraduate Awards & Honors

**Drew Bent** (SB ’18. Academic advisor: Martin Zwierlein) was named a Knight-Hennessy Scholar, an inaugural fellowship program, which will fully fund his graduate studies at Stanford University’s Graduate School of Education. Drew was one of just 49 young scholars selected from an international applicant pool of over 3,600. He will pursue a master’s degree in policy, organization, and leadership studies, and aspires to work at an education startup to develop new types of K-12 schools in California, and ultimately reform education policy through public office at the national level.

**Caitlin Fischer** (SB ’18. Academic advisor: Ibrahim Cissé) has been awarded a Fulbright U.S. Student Program grant for research in the European Union (EU) focusing upon international nuclear policy and the role played by the EU in facilitating nuclear negotiations. For her community engagement component of the Fulbright, she will engage in outreach to inform the general public on issues of nuclear security and disarmament in an international context.

**Andrés M. Mier-Valdivia** (SB ’18. Thesis/Academic advisors: Pablo Jarillo-Herrero, Martin Zwierlein) received a one-year Graduate Prize Fellowship from Harvard University in support of PhD studies in applied physics; and was awarded a 2018 National Science Foundation Graduate Research Fellowship.

**Tal Scully** (SB ’18. Academic advisor: Ibrahim Cissé) received the 2018 Laya and Jerome B. Wiesner Student Art Award for outstanding achievement in, and contributions to, the arts at MIT.

**Luke Weisenbach** (SB ’18. Thesis advisor: Paul Schechter) has been awarded a Fulbright U.S. Student Program grant for research in astronomy at Heidelberg University in Germany, where he will focus on the effects of gravitational microlensing, with the goal of learning more about how matter distributions within galaxies make quasars twinkle. Luke will also participate in the University’s astronomy public outreach programs.

**Vilhelm Andersen Woltz** (SB ’20. Academic advisor: Janet Conrad) has been named a 2018-2019 Astronaut Scholar by the Astronaut Scholarship Foundation, created by the Mercury 7 astronauts. Students are selected based upon demonstrated initiative, creativity, and excellence in their chosen STEM field.
Regretfully, the Department’s graduate awards selection process has been delayed this year. A fully up-to-date listing of all Department of Physics Graduate Awards will appear in the Fall 2019 issue.

Other Graduate Honors & Awards

**Spencer Axani** (Experimental Nuclear and Particle Physics. Thesis supervisor: Janet Conrad) was recognized by *Symmetry Magazine* for making a desktop muon detector.

**Kaley Brauer** (Astrophysics. Thesis supervisor: Anna Frebel) was awarded a National Science Foundation Graduate Research Fellowship, as well as a U.S. Department of Energy Computational Science Graduate Fellowship.

**Joseph Johnston** (Experimental Nuclear and Particle Physics. Thesis supervisors: Lindley Winslow, Joseph Formaggio) was selected as one of five winners of a Best Poster Presentation prize, from a pool of over 400 posters, at the 28th International Conference on Neutrino Physics and Astrophysics.

**Murphy Yuezhen Niu** (Quantum Computing. Thesis supervisor: Isaac Chuang) was awarded the 2017-2018 Claude E. Shannon Research Assistantship of MIT’s Research Laboratory of Electronics in recognition of her significant accomplishments and outstanding promise in the rapidly developing intersection of photonic quantum computation, quantum error correction, and nonlinear quantum optics. In addition, along with her thesis advisor Isaac Chuang, Murphy was named co-recipient of a 2017 Google Faculty Research Award in quantum computing.

**Zhaozhong Shi** (Experimental Nuclear and Particle Physics. Thesis supervisor: Yen-Jie Lee) was awarded a 2018 National Science Foundation Graduate Research Fellowship in nuclear physics.

**Alex Siegenfeld ’15** (Condensed Matter Theory. Supervisors: Deb Roy, Mehran Kardar, Yaneer Bar-Yam) was one of seven Hertz Fellows selected to participate in a summer internship at the Bill & Melinda Gates Foundation as a Global Health and Development Fellow. During the internship, his focus was on the human systems behind vaccine delivery.

**Tzer Han Tan** (Biophysics. Thesis supervisor: Nikta Fakhri) was awarded a Shirley Chan Student Travel Grant by the American Physical Society’s (APS) division of Biological Physics to attend the 2018 APS March meeting.