



May 2018

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The Final Meeting of the 2017-2018 meeting season of the National Capital Section of the Optical Society of America

Annual Student Science Fair Award Dinner

Tuesday Evening May 22nd, 2018
5:30PM – 9:00PM

The Optical Society and the IEEE Photonics are participating sponsors of this event

Featured Speaker:

NASA Goddard's Dr. Jonathan Gardner
"The James Webb Space Telescope"

LOCATION:

*The Recreation Center of the
Goddard Space Flight Center*

5:30PM – 9:00PM

Directions on following pages

This is a fee-charged catered dinner with

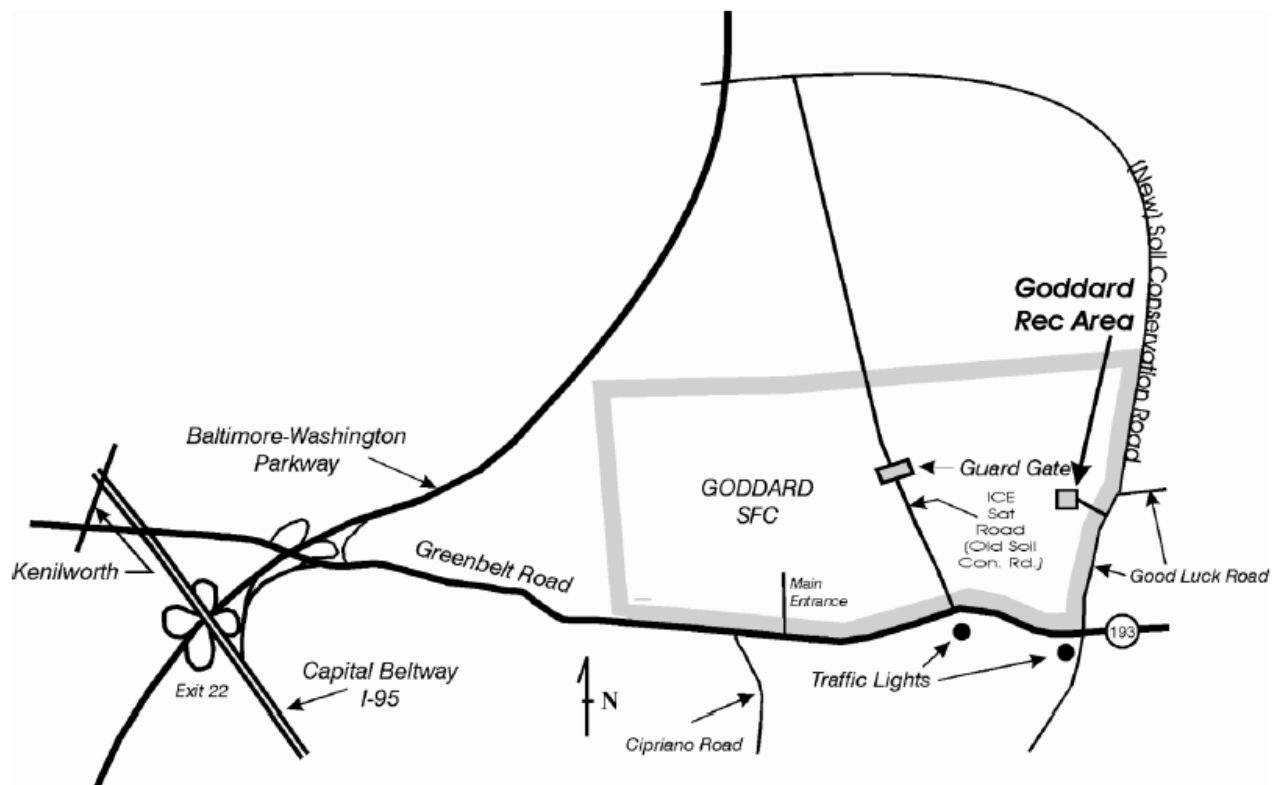
Reservations Required
Before 5:00PM Friday May 18

Contact:

Jim Heaney,
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Dinner will be catered with salad, chicken & vegetables, with a vegetarian option. Awarded student + one parent are our guests at no charge. Other students: \$10 Other adults: \$15.

Directions to NASA/Goddard Recreation Center, Greenbelt, MD



From the inner loop of the Capital Beltway exit at the Kenilworth and turn left at Greenbelt Road (Rt. 193). From the outer loop of the Capital Beltway, take the exit road to the Baltimore-Washington Parkway. Immediately after leaving the beltway, follow the slip road that leads directly on to Greenbelt Road eastbound.

Travelling east on Greenbelt Road:

Continue past the Goddard main entrance (on the left), pass one more traffic light, and turn left at the next light onto Good Luck Road. Look for a gate on the left, within less than ¼ mile. There will be a guard at the gate to admit visitors after 5:30 PM.

SCHEDULE OF EVENTS

5:30PM	Good Luck Road Gate Opens; GSFC Center Gate Closed.
5:30 – 6:30pm	Students arrive and arrange poster projects for display
6:30 – 7:30PM	Dinner.
7:30PM –	Student recognition & awards
8:00 – 9PM –	Featured talk – Dr. Jonathan Gardner/ NASA Goddard “The James Webb Space Telescope”
9:00 – 9:30	Dispersal.

FEATURED TALK: Dr. Jonathan P. Gardner
NASA Goddard Space Flight Center

“The James Webb Space Telescope”

Abstract: The James Webb Space Telescope is the scientific successor to the Hubble and Spitzer Space Telescopes. It is a large (6.6m) cold (50K) telescope to be launched into orbit around the second Earth-Sun Lagrange point. It is a partnership of NASA with the European and Canadian Space Agencies. Webb’s science goals include the formation of the first stars and galaxies in the early universe; the chemical, morphological and dynamical buildup of galaxies, the formation of stars and planetary systems and understanding exoplanets and our Solar System. Webb has four instruments: The Near-Infrared Camera, the Near-Infrared multi-object Spectrograph, and the Near-Infrared Imager and Slitless Spectrograph will cover the wavelength range 0.6 to 5 microns, while the Mid-Infrared Instrument will do both imaging and spectroscopy from 5 to 28.5 microns. Recent progress includes the cryogenic testing of the telescope, the assembly of the spacecraft and sunshield, and planning for the first year of scientific observations.

Bio: Jonathan P. Gardner is the Chief of the Observational Cosmology Lab at NASA’s Goddard Space Flight Center, and the Deputy Senior Project Scientist for the James Webb Space Telescope. He leads a group that studies the Universe as a whole, from its dramatic beginnings in the Big Bang, to the mysterious dark energy that will determine its future. The James Webb Space Telescope, the successor to the Hubble Space Telescope, will look backwards in time to find the first galaxies that formed after the Big Bang, to trace their evolution into galaxies like our own Milky Way, and to connect the formation of stars and planets with the history of our own Solar System.

Awarded Students and Their Winning Projects in Optics & Photonics

Junior Division

Haakon Hart	<i>“Exploring Forces in a Crooke’s Radiometer”</i>
Bilal Imran	<i>“Color Blast”</i>
Daniel Lovell	<i>“Unintentional Interference and Ecofriendly Lights”</i>
Pratyushe Mandal	<i>“Fabrication, Optimization, and Characterization of Natural Dye Sensitized Solar Cells”</i>
Annam Nguyen	<i>“The Efficiency of Modern AMOLED Displays”</i>
Liam West & Mathew Lou	<i>“Bell’s Theorem”</i>

Senior Division

Camille Chestnut & Shayna Cartledge	<i>“Reacting Colors”</i>
Robert Kamens	<i>“The Search for Exoplanets”</i>
Mathew Kolodner	<i>“A Novel Method for Remote Detection of Missing Commercial Satellite Multispectral Imagery”</i>
Kyra Lee & Danielle Dickson	<i>“Simulating Deuteranopia Through Augmented Reality”</i>
Casey Smith	<i>“The Effect of Colored UV Lights on the Color Density of Paper”</i>

Magnet School Division

Clare Heinbaugh & Varshini Babu	<i>“Window into the Future: A Filter-Based Application of Dye Sensitized Solar Cells”</i>
Streya Vangara	<i>“Novel Detection Method of Sub-Atomic Scale Motion Through Plasmonic Resonators”</i>

Open Division

Andrea Mei Gaoat	<i>“The Efficiency of a Parabolic Solar Reflector”</i>
Jason Hsu	<i>“The Effect of Different Gases on Power Absorption”</i>
Alyssa Linkous	<i>“The Streep Effect”</i>
Sam Lossef	<i>“Microwave Antenna Designs”</i>
Sebastian Palermo	<i>“Cooking in the Sun”</i>
Varum Singhai & Alex Ozbolt	<i>“Determining Illness Using Autonomous Colorimetric Analysis of Enzyme-Linked Immunosorbent Assay”</i>
Noeme White	<i>“Crystal Clear Radio”</i>
Cassidy Young	<i>“The Effect of the Heat of an Object on the ratio of Red to Green Light Passing Through a Filter”</i>