



Newsletter of the  
Northeast  
Georgia  
Section of the  
American  
Chemical Society



**ACS**  
Chemistry for Life®

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Volume 418, Number 2

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[Monthly Meeting: Tuesday, February 20, 2018](#)

**(Please Note Location: Loco's Eastside)**

**“Plastic Waste Inputs from Land into the Ocean: Science and Solutions”**

**Dr. Jenna Jambeck**

Associate Professor in the College of Engineering and Director of the Center for Circular Materials Management in the New Materials Institute at the University of Georgia (UGA)

Dinner & Social start at 6:00 PM

Each NEGS ACS chemistry graduate student will receive a \$5.00 credit for his/her meal.

A large, multi-pointed red starburst graphic with a white outline, containing text.

**Loco's Eastside**  
1985 Barnett Shoals Rd.  
Athens, GA 30605

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## TALK SYNOPSIS

Plastic debris and its impacts in the marine environment have been widely documented, but the quantity entering the ocean from land was previously unknown. By linking worldwide data on solid waste, population density, and economic status, we estimated the mass of land-based plastic waste entering the ocean. We calculate that 275 million metric tons (MT) of plastic waste was generated in 192 coastal countries in 2010, with 4.8 to 12.7 million MT entering the ocean. Population size and the quality of waste management systems largely determine which countries contribute the greatest mass of uncaptured waste available to become plastic marine debris. Without waste management infrastructure improvements and other changes, the quantity of plastic waste available to enter the ocean from land is predicted to double by 2025 for a cumulative input of up to 155 million metric tons. Dr. Jambeck will discuss the methods and results, as well as potential solutions to this problem while sharing stories of integrating technology and citizen science into solutions, and crossing the Atlantic Ocean on a sailboat with thirteen other women conducting research and promoting women in STEM and other underrepresented disciplines.



### Speaker's Biographical Sketch

Dr. Jenna Jambeck is an Associate Professor in the College of Engineering and Director of the Center for Circular Materials Management in the New Materials Institute at the University of Georgia (UGA). She has been conducting research on solid waste issues for 20 years with related projects on marine debris since 2001. She also specializes in global waste management issues and plastic contamination. Her work on plastic waste inputs into the ocean has been widely recognized by the global community and translated into policy discussions by the Global Ocean Commission, in testimony to U.S. Congress, G7, G20, and the United Nations Environment program. She is also currently conducting environmental diplomacy as a private citizen in the International Informational Speakers Program for the US Department of State and has conducted programs in Chile, Philippines, Indonesia, Japan, South Africa, and Vietnam. She has won awards for her teaching and research in the College of Engineering and the UGA Creative Research Medal, as well as a Public Service and

Outreach Fellowship for 2016-2017. In 2014 she sailed across the Atlantic Ocean with 13 other women in [eXXpedition](#) to sample land and open ocean plastic and encourage women to enter STEM disciplines. She has conducted extensive outreach on this issue locally in K-12 schools and around the globe at speaking events. She is co-developer of the mobile app [Marine Debris Tracker](#), a tool that continues to facilitate a growing global citizen science initiative. The app and citizen science program has documented the location of over one million litter and marine debris items removed from our environment throughout the world.

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## Chair Corner

Greetings Friends and Associates:

First, I would like to give a shout out to Dr. Richard Morrison. On behalf of the local section and myself, we would like to thank you for your outstanding service as the 2017 chair. Thanks for all of your hard work in making 2017 a successful year for the section!

Secondly, we began this year with a very nice group of members at the Athens Country Club for our annual winter banquet. It was an enjoyable gala with good food, good company, and an engaging presentation by Professor Amanda Frossard. Thanks to Greg Robinson for serving as our member sponsor. Dr. Jenna Jambeck, a UGA College of Engineering faculty member, will speak to us Tuesday, February 20<sup>th</sup> on plastic ocean pollution at Locos on the Eastside. Jenna has done a tremendous job bringing awareness and documenting the unimaginable consequences that single use plastics are having on our oceans. Her paper published in *Science* in 2015 really brought to light the amount of mismanaged plastic that is making its way to the ocean. It should be a very enlightening talk, so please make plans to come out! In March, Dr. Evan White will be the guest speaker, and he plans to talk with us about his research and his connection to the New Materials Institute. Finally, we will close out the spring with the joint NEGSACS-UGA Awards and Alumni banquet at the Georgia Center. Details for these events are forthcoming.

Lastly, we would like to express our gratitude to the University of Georgia, Department of Chemistry, and DaniMer Scientific for their support of the winter banquet. Both of these organizations provide monetary support, and we are very grateful for their generous contributions.

Please make plans to attend the events on the horizon, as I am sure that we will enjoy good times and fellowship together. Congrats again to all members on being a part of the 50<sup>th</sup> Anniversary of the Northeast Georgia Section!

All the best, and see you next Tuesday, February 20<sup>th</sup> at Eastside Locos.

Joe Grubbs

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## IN MEMORIAM

It was in sadness that your NEGS NEWS Editor learned of the passing of member, Donald Day. Donald was a long time supporter of the Section and faithfully attended many meetings. An Emeritus ACS member he joined ACS in 1965 and local section member from 2000. Our condolences to his surviving wife and family. He will be missed.

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## OUTREACH OPPORTUNITIES

Feb. 22, 2018—Malcolm Bridge Elementary STEM Night

Mar. 29, 2018—Hilsman Middle School Science Night

Contact: Maurice Snook (706-543-3753)

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# Georgia Science & Engineering Fair

The Georgia Science & Engineering Fair will be held on Friday, March 23, 2018 at the Athens Classic Center and judges are desperately needed in all areas of science and engineering. All chemistry faculty and/or graduate students should consider becoming a judge. It is a great (and not difficult) rewarding experience to see what these young scientists to be can accomplish. Did you participate in a science fair when you were in grade school? If so, you know how important it is to help. Please help by contacting the following people or website. They can use judges up to and including the day of the event.

[gsef@georgiacenter.uga.edu](mailto:gsef@georgiacenter.uga.edu).

**Nancy Thompson, Director, 706-542-6473**

**Laura Brewer, Co-Director, 706-542-5654**

**Georgia Science and Engineering Fair**

[www.georgiacenter.uga.edu/youth/academic-special-programs/georgia-science-and-engineering-fair](http://www.georgiacenter.uga.edu/youth/academic-special-programs/georgia-science-and-engineering-fair)

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## NORTHEAST GEORGIA LOCAL SECTION OFFICERS

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**SECTION WEBSITE:** [negeorgia.sites.acs.org](http://negeorgia.sites.acs.org)

### Executive Committee

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Nominating: Maurice Snook (retired), [maurice\\_snook@yahoo.com](mailto:maurice_snook@yahoo.com), 706-543-3753

Program: Joe Grubbs, III, DaniMer Scientific, [joegrubbs@danimer.com](mailto:joegrubbs@danimer.com), 229-243-7075

Newsletter Editor: Maurice Snook (retired), [maurice\\_snook@yahoo.com](mailto:maurice_snook@yahoo.com), 706-543-3753

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