MEETING Announcement

GEORGIA SECTION

Tuesday, April 28th, 2015

Dr. Arthur Ragauskas

"Sustainable Biofuels from Laboratory Bench to the Gas-Tank"

Location:

The Colonnade Restaurant
1879 Cheshire Bridge Road Northeast
Atlanta, GA 30324

Directions: **Click Here**

Tuesday, April 28th, 2015

6:00 pm Meet and mingle (cash bar)
6:30 pm Dinner
7:30 pm Speaker

Menu: Plated dinner. Select one dinner and one dessert option per person.

Entrees:
Option 1: Two fried chicken breasts, broccoli, whipped potatoes
Option 2: One fried chicken breast, one fried chicken leg, broccoli, whipped potatoes
Option 3: Pot roast, broccoli, whipped potatoes
Option 4: Vegetarian (broccoli, whipped potatoes, 2 additional sides chosen at the restaurant)

Desserts:
Option 1: Strawberry shortcake
Option 2: Hot fudge cake

**Bread, iced tea, water and coffee are included

RSVP by 5:00 pm on 24 April 2015
at http://goo.gl/forms/jvJzfFzoy3

Price:
$30 regular; $20 retired current ACS members and K-12 teachers, $15 students

Payment: *At the door*
Cash, credit card, or
check to: "Georgia Section ACS"
***Note:* If you make a reservation and then do not attend, you will be charged for the meal as we have to guarantee the number of meals.**

Dr. Art J. Ragauskas

Governor's Chair in Biorefining
University of Tennessee

Arthur Ragauskas held the first Fulbright Chair in Alternative Energy and is a Fellow of American Association for the Advancement of Science, the International Academy of Wood Science and TAPPI. In 2014, he assumed a Governor's Chair for Biorefining based in University of Tennessee's Department of Chemical and Biomolecular Engineering, with a complementary appointment in the UT Institute of Agriculture's Department of Forestry, Wildlife, and Fisheries and serves in the US Energy and Environmental Sciences Directorate, Biosciences Division, at ORNL. His research program is directed at understanding and exploiting innovative sustainable bioresources. This multifaceted program is targeted to develop new and improved applications for natures premiere renewable

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biopolymers for biofuels, biopower, and bio-based materials and chemicals. His research program has been sponsored by NSF, DARPA, DOD, USDA, DOE, GA Traditional Industry Program, a consortium of industry partners, and several fellowship programs. His Fulbright sponsored activities at Chalmers University of Technology, Sweden were focused on the forest biorefinery and new biofuel conversion technologies for lignocellulosics. Currently, Dr. Ragauskas manages a research group of 15 graduate students, postdoctoral research fellows, a research scientist, and visiting scientists. He is the recipient of the 2014 TAPPI Gunnar Nicholson Gold Medal Award and the ACS Affordable Green Chemistry award and his students have won several awards, including the ACS graduate research award.

"Sustainable Biofuels from Laboratory Bench to the Gas-Tank"

Abstract: Over the past several years, extensive research has been focused on improving the efficiency of the biological pathway to convert plant polysaccharides to bioethanol. Our studies have examined the plant cell wall chemistry of biomass and how it contributes to biomass recalcitrance focusing on the ultra-structure of cellulose, lignin functionality and hemicellulose in the bulk and surface of poplar and switchgrass. From these studies a re-occurring theme is that acid/neutral pretreatments typically increase overall crystallinity and changes the relative amounts of amorphous and paracrystalline cellulose while decreasing the DP of cellulose. Surface chemistry studies have shown that the surface of pretreated biomass is uniquely different from bulk chemistry especially in residual hemicelluloses and enzymatic deconstruction. This presentation will examine how these findings can enhance current cellulosic ethanol biorefineries and suggest what future structural features of energy crops are needed to facilitate the next generation of low-recalcitrance engineered crops, better pretreatments, and advanced biocatalysts to accelerate future growth of biofuels.
