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A monthly newsletter dedicated to Teacher Resources, Student Activities, Contests, Competitions, Online Courses, Webinars and MORE about Advanced Biofuels. Scholarships, fellowships, green jobs ... Click here to SUBSCRIBE

Advanced Biofuels USA, a nonprofit educational organization, advocates for the adoption of advanced biofuels as an energy security, economic development, military flexibility and climate change solution.





### **Educational News and Resources**

#### Scroll down for:

- Teacher Resources
- News about and for Students and Schools (K-12)
- Scholarships, Fellowships, Internships in the US and around the world
- <u>Competitions, Contests</u>
- Webinars
- Executive, Professional, Technical Training
- Online Courses
- Consumer Education
- Featured Study Programs
- Green Jobs in the US and Around the World
- Requests for Speakers, Posters, Presenters
- Grants
- Latest News about University/College Research

#### Use these links for more information about:

- Grants in the news
- Requests for Speakers, Posters, Presentations
- <u>Latest News about College/University Research</u>
- Webinars: Upcoming and Archived

# Featured Stories Leadership--This Month's Theme

### **REA Resource Recovery Systems and UConn Join to Create Biodiesel from Wastewater**

University of Connecticut (UConn) students are learning the fundamentals of industrial production of biodiesel from brown grease. This could lead to potential job opportunities for UConn students upon graduation.

REA Operations Manager Eric Metz talks about treating grease that has accumulated in the sewer systems and turning it into biodiesel. He highlights that by transforming the grease, disposal costs are eliminated and the final product can be used for power generation.

Biodiesel fuel production from "Brown FOG" (fats, oils, and grease) is the result of a collaboration between REA Resource Recovery Systems, UConn, and Greater New Haven Pollution Control Authority. If Brown FOG is allowed to accumulate in sewer systems, expensive fixes are inevitable in order to repair overflows and blockages.



Last month, a demonstration commenced for Governor Dannel Malloy which yielded between 150,000 and 200,000 gallons of biodiesel. The final product had a rating of B100, which is pure biodiesel and can sell for approximately \$4 per gallon. Richard

Parnas of UConn stated that a prospective 2.5 billion to 3 billion gallons of B100 a year is likely. READ MORE.

## Support for Biodiesel Small Business from the University of Idaho National Biodiesel Education Program

Are you interested in starting your own biodiesel business? The University of Idaho National Biodiesel Education Program website now has a page with resources that may help you.



Biodiesel Business Information

These videos may assist you in determining what you need for your biodiesel business. WATCH VIDEO.

The website also have a useful TechNote on Home Brewing Biodiesel. <u>LEARN</u> HOW.

### Advanced Biofuels USA Makes Presentation Slides Available

Looking for PowerPoint slides to use in your presentations? <u>Click here.</u>

#### **Teacher Resources**

Activities, Texts, Books, Services, Conferences, Summer Programs ...

#### Ethanol Rule Change Likely to Take Months, Even Years

by Charles Dunlap (The Mexico Ledger) ... "The question is whether there will be a restraining order prohibiting the rules to go forward or not," Murphy (Steve Murphy, POET general manager at the Laddonia refinery) said, adding the EPA is trying to apply the rule governing E10 to E15. "It has to...

October 29, 2018 Read Full Article

#### Red Rock Central High School Tours Highwater Ethanol

(Minnesota Bio-Fuels Association) Seventeen students from Red Rock Central High School toured Highwater Ethanol today to learn about their local ethanol facility's business practices and economic footprint. The students, who were 12th graders from the school's Ag Business class, were briefed on the various processes of ethanol production at Highwater Ethanol, which...

October 29, 2018 Read Full Article

#### Sleepy Eye High School Tours Highwater Ethanol

(Minnesota Bio-Fuels Association) Twenty-eight students from Sleepy Eye High School's Natural Resources class toured Highwater Ethanol in Lamberton yesterday to get a better understanding of clean Minnesota-produced renewable energy. During the tour, the students were briefed on the various processes of ethanol production at the plant as well as potential career opportunities...

October 5, 2018 Read Full Article

More Teacher Resources here.

#### News about and for Students and Schools (K-12)

# ABO Announces Six Winners of the Young Algae Researcher Awards at the 2018 Algae Biomass Summit

(Algae Biomass Organization) Six student scientists were presented with this year's Young Algae Researcher Awards for their contributions to fields of algae biology and engineering at the 2018 Algae Biomass Summit, held in The Woodlands, Texas Oct 14-17. The awards are presented at the annual conference to recognize outstanding research projects by early-career scientists...

October 31, 2018 Read Full Article

### Climate Change in the Classroom: Climate Change Activities for Any Class (Parts 1-4)

(Climate Generation) Climate change lessons and material doesn't have to be isolated in science classes alone. This blog is number four of a four part series

about the activities, lessons, and standards that teachers from various subject areas and grade levels are using to teach climate change in their classrooms.

October 2, 2018 Read Full Article

For more information about <u>K-12 activities</u> and <u>teacher resources</u>, click on these topics in the Categories list along the right margin of the <u>Advanced Biofuels USA</u> <u>website</u>. You can also find information on these topics on the <u>Teacher Resources</u>, <u>For Kids</u> and <u>Education Resources</u> pages on the site.

### Scholarships, Fellowships, Internships in the US and around the world

<u>University of Rhode Island Energy Fellows Program:</u>
Applications for 2019 Now Open! DEADLINE: November 12, 2018

(University of Rhode Island Extension) In response to a growing need for student experiential learning opportunities in energy, URI Cooperative Extension created the Energy Fellows Program in 2008 to enhance the undergraduate and graduate student learning experience. To date, the program has seen over 100 students complete program requirements, with over ... September 25, 2018 Read Full Article

#### CARB Internship Focuses on Cellulosic Ethanol

by Cindy Zimmerman (Energy.AgWired.com) The Renewable Fuels Foundation (RFF), Pacific Ethanol, and Aemetis co-sponsored a new internship

this year at the California Air Resources Board (CARB) for a college student to learn more about low-carbon cellulosic biofuels and their potential to reduce greenhouse gas emissions. The RFF is the research and educational arm ... September 14, 2018 Read Full Article

# Bioenergy Internship & Fellowship Opportunities 2018 Update

The U.S. Department of Energy's (DOE's) Bioenergy Technologies Office (BETO) regularly engages interns and fellows in the sciences, engineering, and liberal arts through a variety of internship and fellowship programs, including the following: American Association for the Advancement of Science (AAAS) Science & Technology Policy Fellowship program Presidential Management Fellows ...

August 1, 2018 0 comment Read Full Article

For more information about <u>Scholarships and Fellowships</u>, click on those topics along the right margin of the <u>Advanced Biofuels USA website</u>.

#### **Competitions, Contests**

ABO Announces Six Winners of the Young Algae
Researcher Awards at the 2018 Algae Biomass Summit

(Algae Biomass Organization) Six student scientists were presented with this year's Young Algae Researcher Awards for their contributions to fields of algae biology and engineering at the 2018 Algae Biomass Summit, held in The Woodlands, Texas Oct 14-17. The awards are presented at the annual

conference to recognize outstanding research projects by early-career scientist...

October 31, 2018 Read Full Article

### <u>The 40 Hottest Technologies of 2018 – As Voting Gets</u> <u>Underway, the Nominees in Depth</u>

by Jim Lane (Biofuels Digest) All through this month, Digest subscribers have been voting on the 40 Hottest Transformative Technologies in the Advanced Bioeconomy. While the Hot 50 concentrates on organizations — this set of rankings could include a complete process, a component, subprocess, a metabolic pathway, a computational system, a...

October 12, 2018 Read Full Article

#### Enter 2019 Storyfest; Win Trip to Galápagos Islands

(Planet Forward) Tell an inspiring story to move the Planet Forward. Enter to win our Storyfest Award. Grand Prize: A storytelling voyage through the Galápagos Islands with Lindblad Expeditions and Planet Forward in August 2019! In every corner of the planet, amazing people are working hard to figure out solutions to the environment's biggest ...

October 2, 2018 Read Full Article

#### Tell a Data Story. Visualize a Better World.

(Google) In collaboration with the World Bank, the United Nations Foundation, and the Global Partnership for Sustainable Development Data, Google Cloud is hosting a data storytelling contest called Visualize 2030. If you're a college or graduate student, this is your chance to make an impact on the global

community. From ending ...

October 2, 2018 Read Full Article

#### PROPOSALS WANTED: Electrical Storage Start-ups

(EIT InnoEnergy) Got a brilliant innovation idea in the electrical storage area, and want to take it to market or scale-up? You could win €100,000 as well as investment and business support to grow your business from the world's biggest sustainable player backed by a trusted ecosystem. Your idea should... September 20, 2018 Read Full Article

### Canadian Competition Aims to Develop Sustainable Aviation Fuels DEADLINE: February 2019

by Erin Voegele (Biomass Magazine) Natural Resources Canada recently announced the Sky's the Limit Challenge, which aims to stimulate the development of sustainable aviation fuel supply chains. The challenge consists of two competitions and aims to reduce greenhouse gas (GHG) emissions and lower the environmental footprint of flying. While the Canadian ...

September 1, 2018 Read Full Article

For information about other competitions and contests, <u>click here.</u>

#### **Webinars**

For information about upcoming webinars, click here.

For <u>archived webinars</u>, <u>click here</u>. Often they are available for viewing online.

### WEBINARS: The Digest's Early Stage Webinar Series — On-going

This weekly one-hour webinar series will bring you hundreds of slides, perspectives, voices introducing the hottest emerging technologies, applications, markets and players in the bioeconomy. It's free, and you register once via a one-time sign-up, and then you'll receive an exclusive alert on each weekly line-up, with your private URL.

July 11, 2018 Read Full Article

# WEBINARS: Sustainable Aviation Fuel: First Friday Research Highlights — on-going

-Webinar series to highlight and question research areas in the sustainable aviation fuel supply chain

Join us in a series of 40 minute lunchtime talks to highlight the research areas key to supporting the creation of ...

#### **Executive, Professional, Technical Training**

### CSX Brings Emergency Training to NJ Firefighters as Crude Oil Shipments Rise

by Curtis Tate (North Jersey Record) CSX, the railroad that operates trains carrying millions of gallons of crude oil and ethanol through New Jersey every week, rolled out its Safety Train on Wednesday to help first responders prepare for an incident. The train includes the most common types of tank cars

firefighters are likely...

October 6, 2018 Read Full Article

#### **Online Courses**

#### Consortium Launches Online Algae Intro Course

(Algae Industry Magazine) A new online course in algae basics has just been made available by Coursera for anyone interested in learning the fundamentals of algae. The Massive Open Online Course (MOOC), Introduction to Algae, was ...

# Climate Generation Offers a Suite of Grades 3-12 Curriculum Resources in the form of Curriculum Guides, as Well as Online Modules that Can Be Downloaded for Free.

(Climate Generation) Aligned with Minnesota state science, social studies and language arts standards, the Next Generation Science Standards and the climate and energy literacy principles, the curricula has been reviewed by scientists, professional educators, and ...

### RFA Develops 'Ethanol in the Classroom' Program

by Cindy Zimmerman (Energy.AgWired.com) The Renewable Fuels
Association has developed a new on-line educational program designed to help
tomorrow's consumers get to know ethanol.

The new "Ethanol in the Classroom" course provides a fun and interactive way ...

#### @EthanolRFA Offers Online #Ethanol Emergency Course

by Joanna Schroeder (Energy.AgWired.com) For first responders unable to attend in-person training courses, the Renewable Fuels Association (RFA) is now offering an online version of its Ethanol Emergency Response course. Offered in partnership with the ...

#### **Consumer Education**

### Growth Energy Launches New Consumer Website for Unleaded 88

(Growth Energy/Ethanol Producer Magazine) On Oct. 2, Growth Energy announced the launch of a new consumer-facing website for Unleaded 88 fuel: Unl88.com. Unleaded 88 is the unified brand identify for E15—a fuel blended with 15 percent ethanol—and is approved by the Environmental Protection Agency for cars model year 2001 and newer—about 9... October 3, 2018 Read Full Article

#### **Featured Study Programs**

Do you have a special program related to biofuels? Let us know.

#### Green Jobs in the US and Around the World

What kinds of jobs are there in the bioeconomy around the world? Who might be hiring? What companies are expanding? Find leads and background information in this month's articles about advanced biofuels and the bioeconomy. Click here for Green Jobs Lists and Company Career pages.

### Agri-Tech Can Turn African Savannah into Global Food Basket – African Development Bank

(African Development Bank Group) The African Development Bank is championing a new regional and global effort to transform the African Savannah from a "Sleeping Giant" to the cradle of the continent's green revolution. "This sleeping giant needs to wake up," the Bank's Vice-President for Agriculture, Human and Social Development, Jennifer Blanke...

October 31, 2018 Read Full Article

### <u>Take-Off: 350 Million Bucks towards Drop-in Aviation</u> Biofuels for the California Market

by Jim Lane (Biofuels Digest) In California, World Energy announced a \$350 million investment over the next two years to complete the conversion of its Paramount, California facility into one of the cleanest fuel refineries in the world. The project will enable World Energy Paramount to process 306 million gallons annually...

October 31, 2018 Read Full Article

Alternative Aviation Fuels: A Sustainable Future is Taking Off

(Roundtable for Sustainable Biomaterials) The aviation industry has committed to major action in the global fight against climate change, including carbon neutral growth from 2020 and a 50% reduction in emissions by 2050 compared to 2005 levels. The question is how can the industry meet these goals given both current technological...

October 29, 2018 Read Full Article

# Minister Launches BEACON Bioeconomy SFI Research Centre and National Pilot Biorefining Facility

(University College Dublin Innovation) €28 million in total invested in BEACON and National Bioeconomy Campus; Launch at Lisheen part of inaugural Bioeconomy Ireland Day — Minister for Agriculture, Food and the Marine, Michael Creed TD today launched the new €22.2 million BEACON Bioeconomy SFI Research Centre at the €5.75 million National Bioeconomy Campus...

October 26, 2018 Read Full Article

# New Recycling Facility to Be Opened by Green Energy Biofuel

(Biofuels International) According to the Aiken Standard a 36,000 square foot recycling facility is to be built by Green Energy Biofuel in Warrenville, Illinois. The plant is expected to provide more than 40 new jobs over the next five years and is scheduled to be up and running by December 2018...

October 26, 2018 Read Full Article

Bioenergy Day Recognizes Sector's Contributions to Forest Health, Rural Jobs Across America

(Solutions from the Land) Today, we join stakeholders around the country in observance of National Bioenergy Day, recognizing the importance of using domestic biomass for a wide variety of applications, including renewable energy, heating and cooling, and biobased products, to improve forest health, mitigate climate change, create jobs and strengthen communities...

October 25, 2018 Read Full Article

### World Energy to Complete Conversion of California Petroleum Refinery to Renewable Fuels

(World Energy/Globe Newswire) \$350 million investment will result in 306 million gallons of annual production — World Energy, a global leader in low-carbon transportation fuels production, announced today a \$350 million investment over the next two years to complete the conversion of its Paramount, California facility into one of the cleanest...

October 25, 2018 Read Full Article

# Saudi Arabia Shows Need to End Addiction to Middle Eastern Oil

by Jim Talent (The Hill/Americans for Energy Security and Innovation) Following the mysterious death of columnist Jamal Khashoggi, Washington was hit with a stark reminder that America remains glaringly vulnerable to economic threats from the oil oligarchs of the world. Saudi Arabia quickly issued a warning that any sanctions will be met with... October 24, 2018 Read Full Article

FG Dedicates \$30m To Cassava Ethanol Project In Ondo

(Economic Confidential) ... The federal government has dedicated \$30 million for the Cassava Ethanol Project at Okeluse in Ose Local Government area of Ondo State. The project, which would be sited on 15, 000 hectares is between the Ondo State Government and the Nigeria National Petroleum Corporation (NNPC). The move by...

October 24, 2018 Read Full Article

### The Transition: The Digest's 2018 Multi-Slide Guide to Bioproducts Transition Dynamics

by Jim Lane (Biofuels Digest) BETO has been developing a broad understanding of different conversion processes that produce bioproducts and the associated market attributes. However, there is not much understanding around how investment decisions are made and the possible successful scenarios for advancing the bioproducts and biofuels industries. The goal... October 24, 2018 Read Full Article

#### Edwardsville Lab Continues to Impact Ethanol Sector

by DeLoss Jahnke (Farm Week Now) NCERC has contributed dozens of technologies being used by manufacturers across the country, and interest in continued collaboration keeps growing. In just 15 years, the National Corn-to-Ethanol Research Center (NCERC) has become a nationally recognized research facility and made a major impact on ethanol production throughout the...

October 20, 2018 Read Full Article

### The Digest's 2018 Multi-Slide Guide to Honeywell's UOP and Biomass-to-Fuels

by Jim Lane (Biofuels Digest) Honeywell's UOP has developed a renewable jet fuel processing technology, a renewable diesel process, as well as a joint venture, Envergent Technologies, that will market technologies and equipment for generating power, transportation fuel and heating oil from biomass using pyrolysis. UOP also owns a Renewable Energy &...

October 19, 2018 Read Full Article

# Waste Makes Haste: The Digest's 2018 Multi-Slide Guide to Fulcrum BioEnergy

by Jim Lane (Biofuels Digest) Fulcrum BioEnergy has developed a "game-changing process for converting municipal solid waste that would otherwise be landfilled, into renewable transportation fuels including syncrude, jet fuel and diesel". The company recently broke ground on its first commercial project in Nevada, and more about that here. Fulcrum's innovative business...

October 15, 2018 Read Full Article

# Biofuels Production and Consumption in Canada: Status, Advances and Challenges

by Mahmood Ebadian and Jack Saddler (IEA Bioenergy Task 39 Newsletter) ... Currently, over 96% of the transportation sector in Canada is fuelled by petroleum products, making this sector the second largest emitter of greenhouse gases (GHG) after the oil and gas sector. ... Conventional biofuels including bioethanol and biodiesel (conventional fatty acid...

October 12, 2018 Read Full Article

### Fat Profits: Asian Traders Cash in as Europe Thirsts for Waste Oils

(The Star) Once surreptitiously dumped down drains in the dead of night, Asia's used cooking oil is fast becoming one of the most sought-after commodities in Europe – as a feedstock for biodiesel. Aggressive green energy targets in the European Union that were bolstered further this year are pushing fuel makers...

October 11, 2018 Read Full Article

#### Alternative Proteins on Everyone's Lips

(nova-Institut GmbH) The winners of the first "Future Protein Award": an insect bar, Proteins made from CO2 and Hemp protein – a guide to the future for modern consumers — During the new conference "Revolution in Food and Biomass Production (REFAB)", nova-Institute presented the first Future Protein Award on 2 October...

October 11, 2018 Read Full Article

#### A Superior Value: A Workshop in Anerobic Digestion

by Bill Keba\* (Advanced Biofuels USA) October 2, 2018, Annapolis, Maryland. Inside the Doubletree Inn, it was as hectic as the traffic on Route 50. Eightyfive paid attendees were gathering, registering, networking, and hurriedly settling in for the 9:15 start of this workshop titled Opportunities and Challenges in Anaerobic Digestion...

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### Biomass Feedstocks for Energy Markets: The Digest's 2018 Multi-Slide Guide to the BELT Biorefinery Concept

by Jim Lane (Biofuels Digest) IEA Bioenergy Task 43's goal is to contribute to sound bioenergy development driven by well-informed decisions in the forestry, agriculture and energy sectors as well as in investment institutions and government agencies. The group addresses critical issues for deployment of sustainable biomass and bioenergy supply chains, including social...

October 10, 2018 Read Full Article

#### Pacific Ethanol Inspires Its Employees to Give Back

by Matt Thomposon (Ethanol Producer Magazine) ... Three years ago, (Wayne) Rylant helped launch an annual company-wide food drive, donating 4,638 pounds of food to local food banks, food pantries and other charities in the communities where Pacific Ethanol has a presence. This year, the company is poised to donate 22,139 pounds...

October 9, 2018 Read Full Article

### UTech, Jamaica and Elhydro Limited Sign MoU for Biodiesel Production and Research

by Michelle Beckford (go-Jamaica.com/University of Technology, Jamaica) The University of Technology, Jamaica (UTech, Ja.) and Elhydro Limited on Tuesday, October 2, 2018 signed a Memorandum of Understanding (MoU) to formalise collaboration in biodiesel production and research. The MoU agreement signed by UTech, Jamaica President, Professor Stephen Vasciannie and Elhydro Limited President...

October 9, 2018 Read Full Article

# From Unloved Woods to Desirable Bioenergy: The Digest's 2018 Multi-Slide Guide to Wood and Forest Projects

by Jim Lane (Biofuels Digest) Increasing global demand for energy, a push by governments and industry to reduce greenhouse gases (GHG), and a desire to increase energy independence are driving the demand for renewable alternatives to fossil fuels. As a source of renewable carbon that can be used in the existing...

October 9, 2018 Read Full Article

#### Company Hopes to Convert Ethanol Plant to Methane

(Quay County Sun) If all goes according to plan, a long-closed ethanol plant in Tucumcari may be converted into a methane plant and become fully operational by mid-2020. Tucumcari Bio-Energy Co. is hunting for investors and may begin converting the plant to methane gas production as soon as early 2019, said...

October 8, 2018 Read Full Article

### <u>UPM's Good News Bear Brings Completed EIA on Kotka</u> Biorefinery and More

by Helena Tavares Kennedy (Biofuels Digest) ... UPM received some exciting news last week from consultancy company Pöyry about their Environmental Impact Assessment (EIA) for UPM's possible Kotka Biorefinery in Finland. Not only has the EIA been completed and submitted to the "authorities" for their

final conclusions, it offers rave reviews of the...

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#### EU's Biofuel Transport Consumption on the Increase

(Biofuels International) Biofuel consumption for transport in the European Union increased by 9.2% between 2016 and 2017, according to new data in EurObserv'ER's 2018 Biofuels Barometer. Between 2014 and 2016 biofuel usage remained relatively stable in the EU, something EurObserver'ER puts down to 'a period of uncertainty' surrounding the future of...

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#### **Requests for Speakers, Posters, Presenters**

For information about conferences seeking speakers, posters and presenters, click here.

Or subscribe to our monthly conference calendar. click here.

#### **Grants**

# US Forest Service Opens RFP for Wood Innovations Program DEADLINE: January 23, 2019

by Erin Voegele (Biomass Magazine) The U.S. Forest Service is seeking grant applications for its Wood Innovations Program, which aims to support projects that expand wood product and wood energy markets, reduce wildfire risk, and

improve forest health. The Forest Service issued the request for proposals (RFP) on Oct. 24, in...

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For information about grants, click here.

#### Latest News about University/College Research

For articles about recent developments in university/college research, click here.

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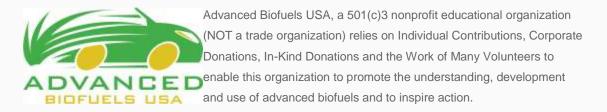
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