

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](#)

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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

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Featured Stories

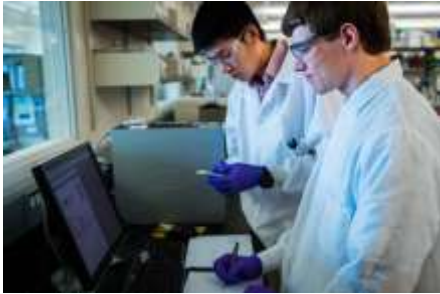
Leadership--This Month's Theme

Eliminating Biofilms in Biofuels: A Bacterial Approach



A small team of ten Carroll High School seniors, as well as newly graduated alum, are part of the Wright-Patterson Air Force Base Air Force Research Laboratory (AFRL) – Carroll International Genetically Engineered Machine (iGEM) team. The group originates from Dayton, Ohio and are referred to as “LabPats.”

The AFRL-Carroll iGEM team is looking into how to eliminate biofilms in fuel storage tanks. Bacteria and fungi proliferate on a “rag layer”, which is the result of the fatty acids in the fuel mixing with water that has leaked into the fuel storage tank. It is within this rag layer that biofilms form and undermine the stability of the stored fuel.



The team will enter their work into the annual synthetic biology competition, iGEM and are aspiring towards designing a bacterium that can sense and eliminate fungi and bacteria.

Thousands of dollars would be saved by both the oil industry and the U.S. military if the team is successful in developing an *E.coli* cell to seek out and eliminate biofilms.

Biofuels tainted with biofilms degrade fuel tanks, clog pipelines, and damage machinery. Numerous companies invest thousands of dollars and labor hours in the upkeep of fuel storage tanks through both service and cleaning. The research is especially useful with the military's objective to progress towards the use of biofuels. [READ MORE](#) [WATCH VIDEO](#) for a comical look at life in the LatPats' lab.

Speaking of Biofuels at Congressional Hispanic Caucus Institute Leadership Conference ...



Joanne Ivancic was pleased and excited to be invited to speak on a "Future of Biofuels" panel at this fall's Leadership Conference of the Congressional Hispanic Caucus Institute, whose purpose is "Developing the Next Generation of Latino Leaders®."

Sponsored by the American Fuel & Petrochemical Manufacturers, Growth Energy, POET and PB America, the panel also included Brooke Coleman of the

Advanced Biofuels Business Council, Thomas Miller of BP Products North America, Inc., and Chet Thompson representing AFPM.



A lively discussion was kicked off by presentations from Congressman Ruben Gallego (D-AZ 7th District) and Congressman Bill Flores (R-TX 17th District). Congressman Flores, who in the past, along with AFPM, has championed legislation to restrict ethanol blends to 9.7% of the market, talked about legislation being discussed that would address the need for high

octane fuels.

He was reminded that US Department of Energy studies have shown high octane ethanol fuels with 20-40% ethanol can be least expensive and most effective fuels for increasing mileage and performance while decreasing carbon footprint.

With a panel representing extremely diverse views and interests about the present and future of biofuels, the audience was treated to animated exchanges.

Meeting with students and young professionals reinvigorated Ivancic's work to improve the student and green jobs sections of the Advanced Biofuels USA website and to expand internship outreach. [READ MORE](#)

**Advanced Biofuels USA Makes Presentation
Slides Available**

Looking for PowerPoint slides to use in your presentations? [Click here.](#)

Teacher Resources

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

[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.

Content ...

October 2, 2018 [Read Full Article](#)

[Minnesota Congressman Tours Syngenta R&D Site](#)

(Syngenta/Ethanol Producer Magazine) Rep. Jason Lewis, R-Minn., recently toured the Syngenta Seeds Stanton, Minnesota, R&D facility and North America Seedcare Institute and participated in a discussion on the future of biofuels, including home-grown American ethanol. ... "Recently I toured Syngenta's Seedcare Institute and demo field in Stanton," Lewis said. "During my ...

October 1, 2018 [Read Full Article](#)

[Green Careers for a Changing Climate](#)

(Climate Generation: A Will Steger Legacy) Preview a clip from Green Careers for a Changing Climate, a new documentary from Climate Generation: A Will Steger Legacy that introduces students to Green STEM Careers as a solution to climate change. Funding for this project was provided by: General Mills, Target, Xcel Energy Foundation, ...
September 20, 2018 [Read Full Article](#)

More [Teacher Resources here](#).

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

[RFA Crappie Masters Team Brings in Youth Winner](#)

by Cindy Zimmerman (Energy.AgWired.com) For the second year in a row, the Renewable Fuels Association (RFA) sponsored team in the Crappie Masters National Championship helped a young angler win a \$1000 scholarship. This is also the second year that RFA has been co-title sponsor of the tournament trail that helps fuel knowledge of ...

September 29, 2018 [Read Full Article](#)

[Marshall High School Tours ADM Corn Processing](#)

(Minnesota Bio-Fuels Association) Twenty-two students from Marshall High School toured the ADM Corn Processing ethanol plant today to get a better understanding of renewable fuel production. The students, who were from the school's automotive repair and maintenance class, learned of the various

processes of ethanol production at the 50 million gallon-a-year ...

September 25, 2018 [Read Full Article](#)

[Agriculture Youth Benefit From GROWMARK Support](#)

by Carrie Muehling (AgWired.com) Illinois FFA State Officers including Treasurer Taylor Hartke helped to bring in the flags during a moving ceremony to open the GROWMARK Annual Meeting in Chicago. The Illinois FFA members joined FFA officers from Iowa and Wisconsin and 4-H youth from Ontario in marching in the 4-H ...


September 14, 2018 [Read Full Article](#)

[Energy E3 to Build Innovation Center, Increase Access to Sustainable Energy in Low- and Middle-Income Countries](#)

(U.S. Department of Energy) It powers nearly every aspect of our daily lives, but in low- to middle-income countries, more than one billion people live without electricity. The issue is particularly overwhelming in sub-Saharan Africa where, according to the U.S. Agency for International Development, 600 million people — an estimated 70 ...

September 14, 2018 [Read Full Article](#)

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



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

[University of Rhode Island Energy Fellows Program: 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](#)

[Kenneth G. Hancock Memorial Award DEADLINE: October 12, 2018](#)

(American Chemical Society) The Kenneth G. Hancock Memorial Award provides national recognition and honor for outstanding student contributions to furthering the goals of green chemistry through research and/or

studies. This includes but is not limited to the research, development, and implementation of fundamental and innovative chemical technologies that incorporate the principles ...

September 6, 2018 [Read Full Article](#)

[Joseph Breen Memorial Fellowship DEADLINE: October 12, 2018](#)

(American Chemical Society Green Chemistry Institute) Each year, the ACS Green Chemistry Institute® (ACS GCI) awards one or more Dr. Joseph Breen Memorial Fellowships. The award sponsors the participation of a young international green chemistry scholar in a green chemistry technical meeting, conference or training program. The amount of the award is ...

September 6, 2018 [Read Full Article](#)

[Ciba Travel Awards in Green Chemistry DEADLINE: October 12, 2018](#)

(American Chemical Society) This annual green chemistry award sponsors the participation of students (high school, undergraduates, and graduate students) residing in the U.S. to attend an American Chemical Society (ACS) technical meeting, conference, or training program, having a significant green chemistry or sustainability component. The applicant must demonstrate research or ...

September 6, 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 [Scholarships and Fellowships](#), click on those topics along the right margin of the [Advanced Biofuels USA website](#).

Competitions, Contests

[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](#)

[Wanted! Inspirational Startups for Our 2019 Bio-Stars Programme at World Bio Markets. DEADLINE: October 19, 2018](#)

(Bio-Based World News) We are offering startups working within bio-based an exclusive platform to share their business with 500 professionals from the bio-economy at World Bio Markets 2019. For free! Bio-Stars gives 10 startups a ticket, space in the exhibition area, extensive media coverage, and even the opportunity to be selected to ...

September 21, 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 Voegelé (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, [click here](#).

Webinars

For information about [upcoming webinars, click here](#).

For [archived webinars, click here](#). Often they are available for viewing online.

[WEBINAR: “Decision Support Tools for Bioeconomy Transformation Strategies: Introduction of Natural Resources Canada I-BIOREF Software Platform — October 17, 2018](#)

IEA Bioenergy invites you to participate in a FREE international webinar entitled, “Decision Support Tools for Bioeconomy Transformation Strategies: Introduction of Natural Resources Canada I-BIOREF Software Platform” presented by Marzouk Benali, Ph.D. and Olumoye Ajao, Ph.D., and moderated by Murray McLaughlin, Ph.D. This webinar will be held on Wednesday October 17, ...
September 26, 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

[Govt Enlists FGV's Help to Assist Smallholders Get MSPO Certification](#)

by V. Ragananthini (Sun Daily) Primary Industries Minister Teresa Kok said the ministry will assist FGV Holdings Bhd in attracting investors to develop the downstream palm oil segment and in turn look to it for help with getting small palm oil growers obtain Malaysian Sustainable Palm Oil (MSPO) certification. Kok said at ...

September 5, 2018 [Read Full Article](#)

[RFA Receives Sixth TRANSCAER® Award for Ethanol Safety Seminars](#)

by Emily Druckman (Renewable Fuels Association) For the sixth consecutive year, the Renewable Fuels Association has received a TRANSCAER® National Achievement Award for hosting a series of seminars last year on ...

April 10, 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

[NATSO Alternative Fuels Council Prioritizes Biodiesel Fuel Quality](#)

by Jeff Hove (Biodiesel Magazine/Alternative Fuels Council) Alternative fuels such as biodiesel represent an important growth opportunity for fuel marketers nationwide. But for many fuel retailers, myriad state and federal regulations and incentives for alternative fuels can be complex and overwhelming. — ... To help fuel retailers leverage the resources necessary to ...

August 28, 2018 [Read Full Article](#)

[UNIDO Promoting Ethanol Clean Cooking in Tanzania](#)

by Meghan Sapp (Biofuels Digest) In Tanzania, UNIDO is promoting a project to roll out the use of ethanol clean cookstoves in an effort to reduce charcoal use for cooking. The Global Environment Fund project will see 110,000 stoves distributed amongst 500,000 families in the greater urban area while promoting local private ...

August 23, 2018 [Read Full Article](#)

[Pennsylvania's Next Biorefinery: Discussion Held at the Penn State Energy Days Annual Conference, 2018](#)

by Anahita Bharadwaj (Pennsylvania State University for Advanced Biofuels USA) Energy Days, 2018 at The Pennsylvania State University- University Park, brought together leading researchers, government agencies, industries, non-profit organizations and academics in the field of energy to understand the current challenges in this area. This year saw some inspiring and enthusiastic ..

August 22, 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.](#)

[Thermal Gasification of Biomass: The Digest's Multi-Slide Guide to TGoB in Norway](#)

by Jim Lane (Biofuels Digest) IEA Bioenergy Task 33 is a working group of international experts with the aim to promote the commercialization of efficient, economical and environmentally preferable thermal biomass gasification processes. Judit Sandquist gave this illuminating overview of the progress and promise of thermal gasification of biomass in ...

September 27, 2018 [Read Full Article](#)

[Boskalis to Reduce CO2 Emissions by Using Sustainable Biofuel on Borsele Renewable Energy Project](#)

(Boskalis) Royal Boskalis Westminster N.V. (Boskalis) will use a biofuel blend on the project to install the export cable to the Borssele offshore wind farm

resulting in a more sustainable realization of this renewable energy project. The Borssele Alpha project is being executed on behalf of TenneT and is aimed at

...

September 26, 2018 [Read Full Article](#)

[Bioeconomy Project Financing & Due Diligence](#)

by Wayne Lee and Martin Wahl (Lee Enterprises Consulting/Biofuels Digest) ... Due to the success of that series, and number of requests we received from those involved in providing funding for bioeconomy projects and from those seeking funding, I am proud to introduce this second series, which explores more in-depth financing options ...

September 26, 2018 [Read Full Article](#)

[Circular Biobased Economy: The Digest's 2018 Multi-Slide Guide to the Biobased Delta](#)

by Jim Lane (Biofuels Digest) In a biobased economy renewable raw materials take over the role of fossil raw materials, such as oil. This is extremely important in order to reduce the carbon footprint which has a positive influence on climate change. The south-western Netherlands region is rich in agrofood, horticulture ...

September 25, 2018 [Read Full Article](#)

[India Rising to the Top of the Bioeconomy](#)

by Jim Lane (Biofuels Digest) To measure the impact that advanced biofuels are having in India, consider that the World Biofuels Day program featured, on stage, Prime Minister Modi, the minister for agriculture, the minister for road

transport & highways, shipping and river development; the minister of consumer affairs and food; ...

September 25, 2018 [Read Full Article](#)

[Coffee Waste Biofuel Plant in South Africa Expects 2019 Construction](#)

(Biofuels International) South African recycling company Verda Waste is to build a plant that will process coffee waste into biofuel. The plant will be located in Johannesburg and is expected to be built in 2019. The company intends to lead the industrialising process of converting waste coffee grounds into biofuels. It ...

September 21, 2018 [Read Full Article](#)

[The Digest's 2018 Multi-Slide Guide to Clariant Biotechnology](#)

by Jim Lane (Biofuels Digest) Clariant's Group Biotechnology — responsible for the Technology Platform Biotechnology — develops tailor-made biotechnological processes for the economic and sustainable production of bio-based chemicals and biofuels. It focuses on bio-catalysis and bio-refining. Innovative technologies for the sustainable conversion of renewable feedstocks into biofuels and bio-based chemicals through energy-efficient ...

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[Pride in Product and Profits](#)

by Tim Albrecht (Ethanol Producer Magazine) Managing employee morale requires offering opportunities for advancement and keeping employees

informed about the companies' successes. — ... A big part of plant morale is ensuring leaders are connected to their individual employees—the employees feeling they work for a specific person versus the plant itself, ...

September 14, 2018 [Read Full Article](#)

[It's Time for Action to Unlock Growth of Biofuels in Kansas](#)

by Jesse McCurry (Wichita Eagle/Kansas Grain Sorghum Commission & Producers Association) ... Our grains reach markets around the world and feed production at a dozen Kansas ethanol plants that produce nearly 500 million gallons of clean, renewable biofuel each year. Ethanol production alone supports hundreds of thousands of jobs across the ...

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[Strategic Transformation: The Digest's 2018 Multi-Slide Guide to UPM, the Biofore Company](#)

by Jim Lane (Biofuels Digest) UPM is going through a transformation to ensure sustainable value creation in the long term. The aim is to improve profitability, generate growth and increase the value of the company's business portfolio. UPM has been transforming its business model, business portfolio and business performance. UPM consists ...

September 14, 2018 [Read Full Article](#)

[Groundbreaking for Clariant's Sunliquid® Cellulosic Ethanol Plant in Romania](#)

(Clariant) Investment represents biggest industrial commitment by an international corporation in the region of Craiova; Location chosen for combination of feedstock supply and infrastructure; Annual production capacity of 50 000 tons of cellulosic ethanol — Muttenez, September 12, 2018 – Clariant, a world leader in specialty chemicals, today officially started construction of the ...

September 13, 2018 [Read Full Article](#)

[Hyundai, LG to Construct Biodiesel Factories in Indonesia](#)

(Jakarta Post) West Kalimantan Governor Sutarmidji has said Korean companies Hyundai and LG will construct biodiesel factories in the province amid the government's effort to expand the domestic use of the fuel through its mandatory 20 percent blended biodiesel (B20) policy. ... He said the Korean investors would apply environmentally friendly ...

September 10, 2018 [Read Full Article](#)

[New Synthetic Biology Initiative to Boost Bio-Economy](#)

(University of Queensland) A \$4.5 million initiative to boost Australia's synthetic biology capabilities will be built by The University of Queensland and CSIRO, helping drive advances in areas such as manufacturing, industrial biotechnology, environmental remediation, biosecurity, agriculture and healthcare research. UQ Vice-Chancellor Professor Peter Høj and CSIRO Executive Director for ...

September 7, 2018 [Read Full Article](#)

[Proteins and Synthetic Biology: The Digest's 2018 Multi-Slide Guide to Codexis](#)

by Jim Lane (Biofuels Digest) Codexis is a leading protein engineering company that applies its technology to the development of biocatalysts for the commercial manufacture of pharmaceuticals and fine chemicals. Codexis' proven technology enables implementation of biocatalytic solutions to meet customer needs for rapid, cost-effective and sustainable manufacturing. The company gave ...

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For information about conferences seeking speakers, posters and presenters, [click here](#).

Grants

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For articles about recent developments in university/college research, [click here](#).

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about *green jobs* in the advanced biofuels world. [Subscribe](#)

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Also, what you would like to see in this Advanced Biofuels Education Newsletter?

If you have contributions, lesson plans, experiments or news you would like to share, please contact

Joanne Ivancic at [info @ AdvancedBiofuelsUSA.org](mailto:info@AdvancedBiofuelsUSA.org)
or call 301-644-1395

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Make YOUR Contribution Today!**



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You can make your gift in memory or in honor of someone special. Just let us know. Call (301-644-1395) or send an email: info@AdvancedBiofuelsUSA.org. We'll send a special card acknowledging your gift.

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