

Final Report: Students at 2021 National Biodiesel Conference & Expo

In 2021, the National Biodiesel Board and Biodiesel Alliance project successfully executed another student program for members of the Next Generation Scientists for Biodiesel to attend the Virtual National Biodiesel Conference and Expo, Jan. 20 – 23. In all, 21 students attended the event, supported by the United Soybean Board, the National Biodiesel Foundation, the National Biodiesel Board and Kansas Soybean Commission. The students joining were as follows:

- John Cramsey/Iowa State University/Undergrad/Chemical Engineering
- Zenith Tandukar/University of Minnesota/PhD/Plant Breeding and Genetics
- Jenny Frank/SUNY ESF/PhD/Sustainable Energy
- Leo Budy/University of Kansas/Undergrad/Chemical Engineering
- Claire Hampton/Bryn Mawr College/Undergrad/Environmental Studies
- Elizabeth Pomerence/Missouri University of Science and Technology/Undergrad/Chemical Engineering
- Olanrewaju Adekunle/Ladoke Akintola University of Technology (Nigeria)/Undergrad/Chemical Engineering
- Marissa Martine/Rowan University/Chemical Engineering
- Shyam Paudel/Missouri Univ. of Science and Technology (Chemical & Biochemical Engineering)
- Hossein Alinezhad/Sahand University of Technology/Engineering
- Muhammad Aamir Bashir/University of Idaho/Biological Engineering
- Julia DeLucia/SUNY ESF/Sustainability Energy Management
- Kevin Gould/Iowa State University of Science and Technology/Chemical Engineering
- Kathryn Harlow/University of Kansas/Undergrad/Chemical Engineering
- Justin Walck/University of Kansas/Undergrad/Chemical Engineering
- Paul Shamet/University of Kansas/Undergrad/Chemical Engineering
- Mylee Godwin/University of Kansas/Undergrad/Chemical Engineering
- Mary Severt/University of Kansas/Undergrad/Chemical Engineering
- Reagan Hurla/Kansas State University/Biological Systems Engineering
- Holden Bryant/Kansas State University/Mechanical Engineering
- Ben Proffitt/Kansas State University/Chemical Engineering

Most students attended a **pre-conference Biodiesel 101 session**, which included a sustainability presentation. Most of the students attended a virtual **mentoring science mixer** once again with experienced biodiesel scientists, a networking and mentoring highlight of the event. Several students complimented NBB Director of Sustainability Matt Herman, noting appreciation for his multiple presentations on sustainability, as well as for the mentoring time he took with them either in the mentoring mixer or offline.

NGSB Co-Chair Jenny Frank moderated the session “Science, a Rising Start” which featured leading biodiesel science experts including Biodiesel Ambassador Bob McCormick/National Renewable Energy Laboratory, as well as Kelsey Erickson/REG and Dr. Susan Williams/University of KS.



Survey Results

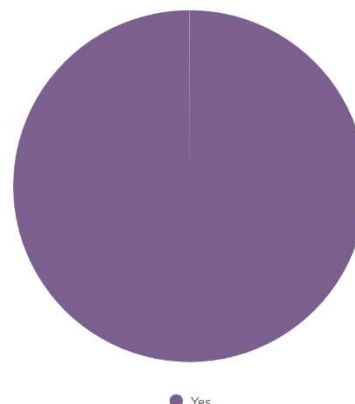
In February, the KCE/NBB team **surveyed** members of the Next Generation Scientists for Biodiesel who attended the National Biodiesel Conference and Expo. Of the students who responded to the survey, all but one rated their experience a 4 or 5 out of 5.

Also, 100 percent of respondents answered “yes” to the question, **“Did the biodiesel conference increase your support of the use of biodiesel and Bioheat?”**

2. Did the Biodiesel Conference increase your support of the use of biodiesel and Bioheat?

About 80 percent answered yes to the question, **“As a result of attending the conference, do you see an opportunity where you could propose a pathway to increase the use of biodiesel?”** Answers given included the following:

1. “I think that a lot of the technical avenues for biodiesel have been explored already. The main challenge is the social one. Educating people on why biodiesel is a sustainable fuel that should be supported now should be a major center of focus for biodiesel industry.”
2. “Biodiesel can be marketed as a premium product to increase usage. Sustainability is becoming trendy and desirable, and biodiesel has the opportunity to follow that trend.”
3. “The best way to get people knowledgeable and comfortable with the product is by talking about it in schools. Kids absorb a lot of knowledge, and I think having more presentations about the fuel would be really neat and a way to start building a future in support of biodiesel.”
4. “Increasing visibility in the public spheres like Twitter and LinkedIn and explaining how biodiesel is a better alternative energy solution compared to fossil fuels and/ or the use of EVs at current standards.”
5. “I definitely see its coexistence with all other renewables to create a future that is livable and sustainable. Blending with Renewable Diesel, since it's essentially the same compound as regular diesel, practically eliminates all problems with B100 biodiesel.”



Value	Percent	Responses
Yes	100.0%	17

Soybeans as a Sustainable Feedstock

The survey and a requested essay from students also asked what they learned about **soybean oil as a sustainable feedstock**. Answers included the following:

- “While COVID-19 has put a bit of a squeeze on waste cooking oil supply due to restaurant closures...soybean producers are still producing oil in quantities necessary to support the goals of the NBB, specifically, doubling national biodiesel production by 2030.”
- “I learned that soybean as a feedstock has an increased yield of oil per acre compared to many other crops which contributes to its position as a major feedstock in industry.”

- “Soybeans are a great feedstock for biodiesel, as their oil is already a byproduct of a more common process to make feed for livestock. They also produce more energy per land needed to grow them, making them very efficient.”
- “It truly is sustainable and doesn't create food vs fuel competition.”
- “I learned more about how soybean crush supports value added agriculture. Before the conference I understood soybean as a feedstock conceptually but now I understand how soybean crush is produced and how it is processed for biodiesel.”

Essay Comments from Students

“The NBB conference was both insightful and inspiring for a Next Generation Scientist for Biodiesel, like myself. I was initially interested in the biodiesel industry because of its pragmatic solution to reducing CO2 emissions. After learning about how biodiesel supports communities through both reducing CO2 and value added-agriculture, I am passionate about biodiesel being the most effective and holistic solution to our current challenges in combating climate change... As an Environmental Studies student at a liberal arts college, it was energizing to hear how there is a role for me in an industry I have grown so passionate about.” – [Claire Hampton/Bryn Mawr College/Environmental Studies](#)

“I really enjoyed the National Biodiesel Conference. The professional discussion sessions were impactful for me as a young researcher/engineer because they educated me on the policy and market dynamics that provide for biodiesel production. The new information and perspectives I gained will shape my senior thesis, future undergraduate biodiesel research at Missouri S&T, and my regard for biodiesel quality, sustainability, and policy in my future career. Thank you Next Generation Scientists for Biodiesel and sponsors for making my attendance and the conference possible!” -- [Elizabeth Pomerence/Missouri University of Science and Technology/Chemical Engineering](#)

“This conference changed my view on biodiesel’s application in the society by making me realize the many future prospects and opportunities for the biodiesel industry. It changed my view on its availability and usage, I never knew biodiesel has had such amazing impact in America and the favorable policies that are being made on climate changes will definitely make the NBB’s 6B gallon vision by 2030 a success. Biodiesel is worth learning about and making research on its improvement indeed.” – [Olanrewaju Adekunle/Ladoke Akintola University of Technology \(Nigeria\)/Chemical Engineering](#)

“This conference gave me some insights I did not consider in this debate before. The message of “Better, Cleaner, Now!” is absolutely accurate. I believe that biodiesel is an immediate aid to a generations long issue. It is a fuel that is currently available and provides sustainability through its carbon neutrality.” – [Justin Walck/University of Kansas/Undergrad/Chemical Engineering](#)

“Knowing more about the industry is important for me because, as a lab assistant, we want to know how our fuel is being marketed, who it is being sold to, and how well it is selling. Being aware of the public’s view of

biodiesel allows us to get the unknown truths out there and dispel any false information. I am very thankful for getting the opportunity to take part in this year's conference, and I hope to attend again in the future."

–Mylee Godwin/University of Kansas/Undergrad/Chemical Engineering

"This conference has really opened my eyes to the complexities of the energy problem faced around the world today. Before this conference, I already had a passion for renewable energy. This passion is now even larger, and I feel that I understand more about how to implement new renewable energy technologies and the challenges that face each type of fuel." – Mary Severt/University of Kansas/Chemical Engineering

Future Webinar Suggestions

- Jenny Frank should lead a seminar where she talks about her PhD work at SUNY and how her work is focused on improving the optics of biodiesel and biofuels with supporting economic analysis data.
- I really enjoyed the Rise and Shine with Fats, Oils, and Renewable Diesel Session and Biodiesel Fuel Standards and Quality: Raising the Bar sessions.
- I really liked the "Driving Decarbonization" webinar and the "Science: A Rising Star" webinar. They both made me realize that we need several solutions for the energy issue and how biodiesel can help decrease carbon emissions.
- The session Science: A Rising Star was really great. Susan Williams and Bob McCormick had great, relevant information for students. Matt Herman also had great information that he shared in the Biodiesel and Renewable Diesel 101 session and in the Driving Decarbonization session.
- Recommended sessions: Biodiesel 101 Closing session: can biodiesel, R. D and electric vehicles coexist? Recommend speakers: Matt Herman Prof Susan Williams Cody Graham Webinar topics: Modification/Improvement needing properties of biodiesel.
- I loved hearing from Bob McCormick in the "Science: a Rising Star" session. He is simultaneously so knowledgeable and yet so easy to listen to!
- I thought that all student and professor led webinars were fantastic.
- I would definitely recommend the Biodiesel and Renewable Diesel 101 Session (Matt Herman was great at explaining technical information and sustainability with numbers and logic) -- also a good refresher/teacher on the basics of biodiesel, who buys it, etc. Driving Decarbonization was also another wonderful session that gave a good overview on how to make biodiesel sustainable from soybean to biofuel.
- I would recommend Biodiesel 101, Rising to the Next Challenge in Washington, and Biodiesel Fuel Standards and Quality: Raising the Bar, or any sessions with similar topics and speakers.
- It might be interesting to have some current industry professionals take about fossil fuels to understand why are we are currently so dependent on them to give a chance for the connection with why we need more research into biofuel.