

BIOLOGICAL AND AGRICULTURAL ENGINEERING WITH DR DAN FLIPPO

TALKING POINTS

1. What does the United Nations expect the global population to be by 2050?
2. What do we mean when we describe something as sustainable?
3. Can you name some of the advantages of using small autonomous robots instead of conventional tractors?
4. What can Dan's AgDrones do and what are some of their advantages?
5. Why does Dan's team have to think about different methods of planting or drilling when using their machines?
6. Dan's robots are controlled by computers. Why do you think this poses a safety risk?
7. Other than robotic vehicles, can you name some of the things that mechanical engineers help to design and build?
8. Why is it important for Dan to work with ecologists and environmental scientists?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

Take a virtual walk around Dan's lab

Kansas State University hosts an open house every spring, when the public can visit Dan's lab and see all of the projects they are working on.

If you are unable to attend, fear not! There is a link where you can enjoy a virtual walk around the lab from the comfort of your own home or classroom!

<https://my.matterport.com/show/?m=S3BCW8k7jzq>

If you would like to arrange a private tour, you can email Dan at dkflippo@ksu.edu.

ADDITIONAL RESOURCES

- Kansas State University has a dedicated webpage that presents more information about the robots that Dan is working on. You can read more about the projects his team are working on here: <https://www.k-state.edu/seek/fall-2019/robots-drones-becoming-tools-in-agriculture/index.html>
- This video includes some of the robots that the lab is working on and features contributions from Dan himself: https://www.youtube.com/watch?v=_OwzpB9NhEE&feature=emb_title
- Dan is heavily involved with BotsKC, a Battle Bots Team. It is a great way to learn about robotics and the engineering process. Take a look and see how you can prepare for a future in the manufacturing and engineering industry: <https://botskc.org/>