

Inventor Brian Krohn combats snoring, creates wizard tools

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Brian Krohn has developed brain surgery tools, pioneered biodiesel innovations and briefed members of Congress on how to turn waste oils into energy.

But the young serial entrepreneur with some impressive academic credentials also does lots of not-so-serious stuff, like an analysis of the safest place to survive a zombie apocalypse (answer: Borneo).

Or writing a 10,000-word essay on "the perfect food unit": a nine-ingredient "inexpensive, convenient and environmentally friendly" burrito that Krohn ate for breakfast, lunch and dinner for six months while he was writing his doctoral theses.

He's CWO (Chief Wizard Officer) for a startup that will make "a wizard staff that actually does wizard stuff." Like shoot flames. Or spew fog.

Now, Krohn, 31, is launching a cellphone app called Soundly.

Developed with funding from the National Science Foundation and the National Institutes of Health, it's designed to help people who snore by getting them to play a voice-activated game that will strengthen the muscles in their upper airway.

Colleagues and mentors have described Krohn as a "renaissance talent." But the former Rhodes Scholar also embodies a typical Minnesotan vibe: enthusiastic, but unassuming. Earnest, but sometimes a bit goofy. Like

his search for the perfect food that led to an unpleasant experiment in a "sardine-based fish bread."

Oh, he also wants to create million-dollar companies from scratch, particularly if that involves "identifying needs and giving people value" using science and technology.

"You can do it for snoring and magic wizard staffs and brain surgery," he said.

In a way, Krohn is still the same curious, creative kid who grew up in Cloquet making go-carts, potato cannons, trebuchets and claymation videos. Except now his inventions are being supported by government grants, academic fellowships and crowdfunding.

"He's just one of those people who are naturally innovative," said Davis Fay, an engineer working with Krohn on the Magic Wizard Staff project.

"He follows unmet needs," said Steven Thomalla, another engineering colleague. "Brian is not biased in what he might work on. His next project might be in space development."

SCIENTIFIC SILLINESS

Krohn's path to becoming a useful mad scientist started when he switched from majoring in film to chemistry while at Augsburg College in Minneapolis.

His undergraduate research on producing biodiesel from waste oils contributed to a new process developed (with the help of an Augsburg chemistry professor and an alum) to produce fuel in a cleaner, more environmentally friendly way. Krohn appeared on "Good Morning

America" to talk about the process, which was commercialized in the development of a \$9 million pilot plant in Isanti, Minn.

Also while at Augsburg, Krohn founded the Augsburg Honors Review, a place for undergraduates to publish their research papers. And he started the Agre Challenge, named after Peter Agre, an Augsburg alum and winner of the 2003 Nobel Prize in chemistry. The Agre Challenge was a contest to see who could build a machine that would fling a three-pound sandbag various distances.

Krohn went on to become the first Augsburg student to win a Rhodes scholarship, studying environmental policy and the philosophy of science at Oxford University. After which he developed Cycle Coach, an app with 80,000 users that provides audio of instructors to lead users through indoor cycling workouts.

Next stop was a doctorate in environmental science from the University of Minnesota. But he also found time to co-found Mighty Axe Hops, a 2015 joint venture that raised \$4.6 million in financing and resulted in one of the largest hops farms in the Midwest.

"I like beer, and I like entrepreneurship," said Krohn, who also taught beer brewing and recruited guest lecturers for a course he created at Augsburg on the art, history and science of brewing.

FROM WIZARDRY TO SURGERY

While at Oxford, he married Kari Aanestad, a fellow Augsburg student who he met during freshman year. They now have a 16-month-old daughter, "the best project of all," Krohn said.

His latest project, the Soundly app, was started while he was an Innovation Fellow at the University of Minnesota's Medical Devices

Center.

That's where he also worked on a new tool that uses electrical sensors to allow a surgeon to precisely tell the difference between healthy and cancerous brain tissue.

In between developing new medical devices, he created a Halloween prop, a wizard's staff that uses compressed air to shoot out puffed cheese balls.

Some engineers at the Medical Devices Center were so impressed with the gadget that they decided to start a company with Krohn, selling wizard staffs.

"We don't have a background in the magic wizard staff space," said Thomalla, lab supervisor at the Medical Devices Center. Still, he's been moonlighting with Krohn to build fog and flame spewing prototypes with names like the Chaos Staff.

Their startup company has gotten about 2,500 likes on Facebook from live-action role playing enthusiasts, cosplay fans and renaissance festival attendees who collect wizard staffs.

"A lot of times I get a little bug about something," Krohn said of his diverse ventures. "I kind of just do things and see where they go."

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