

Reflecting on Invention

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inventors, iv lab, nathan myhrvold, adriane brown

Many a driver has been warned to, “Drive safe and look out for ice on the road.” But what exactly is it that we are looking for? That infamous “black ice” sometimes seems to have a cloaking mechanism. Until now that is.



Eóin and Ronan MacGaoithín share their prototype at our Bellevue headquarters.

What if you could determine how icy a road was simply by looking at the reflectors on road markers? Two young scientists developed a prototype to do just that.

Intellectual Ventures (IV) was proud to sponsor a special prize in the [BT Young Irish Science and Technology Exhibition](#), which brings together future scientists, engineers, and inventors from across Ireland for an annual competition. This year, Eóin and Ronan MacGaoithín, ages 14 and 13,

respectively, received the “best prototype” award for their idea of embedding temperature-sensitive material into the reflectors on roads.

“Our project was an improvement on the road’s ‘cat’s eyes’ or ‘reflectors.’ as they’re known in the U.S., to help detect if there are icy conditions,” said Ronan, who along with his brother came up with the idea to use the expanding properties of frozen water to power their invention.

“This reaction could trigger a different color in the cat’s eyes on the road. When the water unfreezes – when the temperature rises – the level in the syringe would decrease and then the color on the cat’s eyes could change once more.”

Like any inventor, they were faced with obstacles along the way but understood a certain amount of failure and a great degree of persistence would lead them to a solution.



Mark Kuiper, IV Lab, shows the boys around the facility.

Eóin explains, “We came across a few challenges. For example, at zero degrees Celsius, the prototype would expand but by then, everything else on the road would be frozen and it might be too late to warn drivers.”

To solve this, they searched for liquids that would freeze above zero degrees Celsius. After experimenting and mixing components together, they were able to create a liquid that froze at the temperature needed of 1 degree Celsius.

As part of their prize, Eóin and Ronan traveled from Ireland to our Bellevue headquarters – their first time on America’s west coast! – toured the [IV Lab](#), and met with IV’s founder and CEO, [Nathan Myhrvold](#) and President and COO, [Adriane Brown](#).

Excited to share their mutual passion for invention with the team at IV, Eóin and Ronan helped remind us that you’re never too young to pursue a great idea.

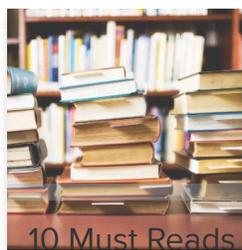
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