

Device Created for 'Red Wine Headache'

November 1 2007



Mathies explaining his new technology to the press.

A device first developed by chemistry professor Rich Mathies to look for signs of life on Mars could help avoid the dreaded “red wine headache.”

Mathies described his new technology in an article and press release published by the journal *Analytical Chemistry*. The Associated Press (AP) interviewed Mathies and released their own version of the story that has been picked-up by over 200 newspapers, TV stations and other media outlets around the world.

In the year 2015, the European Space Agency’s ExoMars mission is scheduled to land a rover on Mars. The rover’s instrument package will test soil samples for telltale chemical markers of life using the Mars Organic Analyzer (MOA), a device that Mathies has been perfecting for

over a decade.

In the meantime, working with his NASA-funded technology, Mathies has created a device that can detect amines, chemicals that can turn wine and other beverages and foods into ingredients for pounding headaches. The amines occur naturally in a wide variety of aged, pickled and fermented foods, including wine, chocolate, cheese, olives, nuts and cured meats.

Researchers have suspected several culprits for red wine headache, including the amines tyramine and histamine, although they have reached no definite conclusions. Still, many specialists warn headache sufferers away from foods rich in amines, which can also trigger sudden episodes of high blood pressure, heart palpitations and elevated adrenaline levels.

The prototype of the device — the size of a small briefcase — uses a drop of wine to determine amine levels in five minutes, Mathies said. A start-up company he co-founded is working to create a smaller device the size of a personal digital assistant that people could take to restaurants and test their favorite wines.

Mathies and colleagues found the highest amine levels in red wine and sake and the lowest in beer. The researchers suggest the device could be used to put amine levels on wine labels.

Says Mathies, “This is a great example of how technology developed for one purpose can have useful but unexpected spin-offs. Since I suffer from red wine headaches myself, when this device is commercialized, I’ll be the first customer.”

Source: UC Berkeley

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