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Ó Máille

O'Malley Clan Association Monthly Newsletter

This month's highlights

- The O'Malley Clan Gathering 2019
- Get in touch and share your stories!
- Cubesats, satellites as big as your phone that could help get us to Mars!
- About the O'Malley Clan Association
- Family Tree DNA– The O'Malley Project

The Annual O'Malley Clan Gathering , Limerick 2019

The weeks are flying by and its not long until The O'Malley Clan Gathering 2019 will be upon us! It'll be a fabulous weekend in Limerick at the end of June. There'll be lots to see and do including exhibitions on O'Malleys in public life in City Hall, A Family Tree Exhibition, Genealogy workshop, Walking tours, and Bus Tour of Limerick and surrounding parts! and the annual Clan Mass, Of course there'll be the usual serving of music, dance, and fabulous food! Get planning your trip now! June 28th—30th


O'Maille

O'Malley Clan Association MonthlyNewsletter

Welcome to our new newsletter from Clan Chieftain Brigid O'Malley

The New US Ambassador to Ireland Mr Kevin F O'Malley

Get in touch and share your O'Malley Heritage!

Have you got an article or old photographs that you'd like to submit for future editions of "O Maille" The O'Malley Clan Association Newsletter.

We'd love to hear from you wherever you're based around the world. Old photographs and stories to go with them, old letters, family trees or just an article that you'd like to share with the rest of the clan. Drop us a line and We'll get right to it!

Cubesats! A step on the journey to Mars!

From an article by James O'Malley, London, uk, on Techradar.com.

James is a freelance Writer and Journalist

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Smartphones haven't just changed the world, they're changing space too. Over the past couple of decades, we've watched as manufacturers have furiously competed to engineer faster, leaner, and higher-quality components for use in the latest phones. But it turns out that the mobile parts boom is useful for the satellite business too.

Since they were first proposed in 1999, a community has grown up around the idea of building satellites that are significantly smaller and cheaper to launch, built in part from newly commoditized components. The idea is that these 'cubesats' can be sent up to space, potentially dozens at a time, piggybacking on other space missions as a secondary payload.

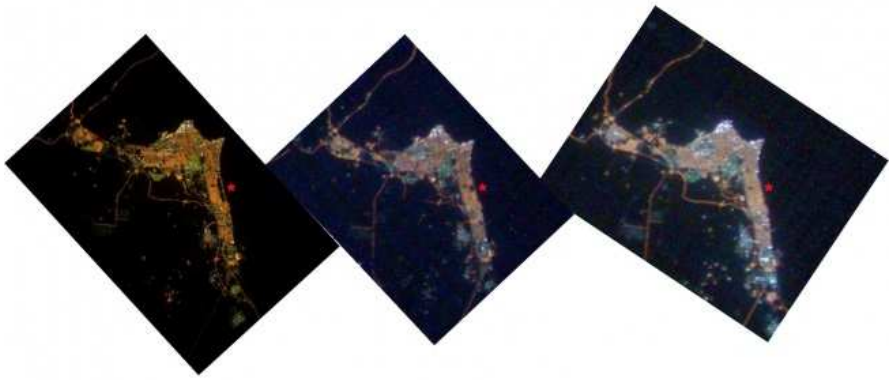
On June 12 2013 an Atlas rocket blasted off from Vandenberg Air Force Base in California carrying several satellites. The biggest was a seven-tonne military communications satellite – and the smallest were a pair of cubesats that weighed less than 2kg each, called AeroCube 5a and 5b

A 'camera-phone in space'

Launched by the Aerospace Corporation, the AeroCubes' primary mission was to test a new communications technology, but following their launch Dee W Pack from The Aerospace Corporation found another use. He used their on-board cameras to prove that cubesats can be just as capable of taking photos of the Earth as full-sized satellites.

"The thought crossed my mind that the tiny cameras we had on some of our AeroCubes – our Aerospace cubesats – could be used at night," Pack says. Having been inspired by the incredible night time photography of a colleague at the National Oceanic and Atmospheric Administration, and thinking of the impressive photography that astronaut Donald Pettit had managed from the International Space Station, he wanted to see how cubesats measured up.

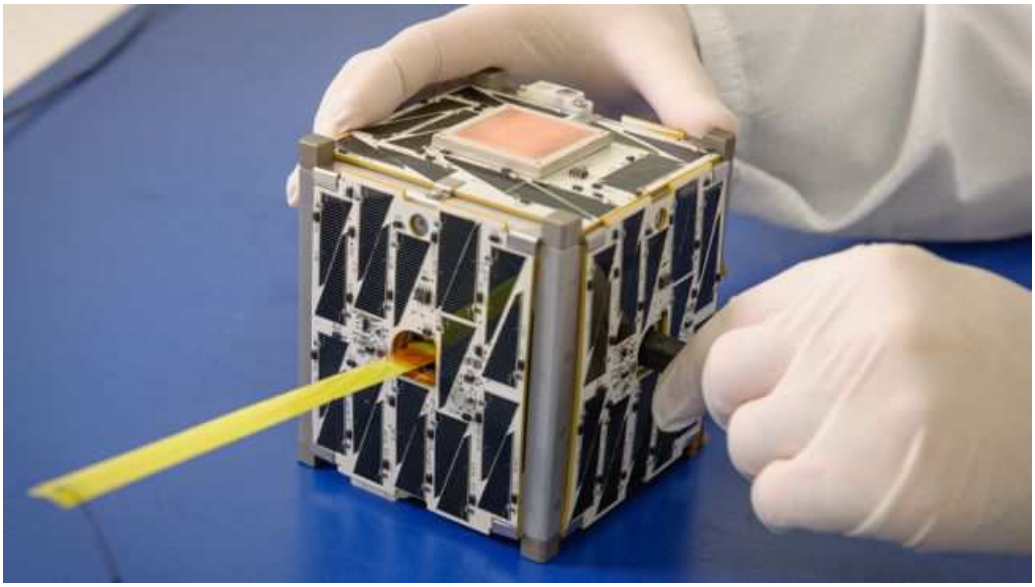
Cubesats! A step on the journey to Mars! (contd)



The image on the left was taken by an astronaut aboard the International Space Station; the two on the right were taken by the AeroCube cubesats

On a technical level, the on-board cameras are probably not even as high-spec as the camera in your phone: “They're megapixel cameras, but they're not up to today’s standards because they were built a few years ago, and they're equipped with very inexpensive lenses”, Pack explains. “The trick is in the pointing of the satellite so you can expose the tiny camera for approximately 0.2 or 0.3 seconds and get a somewhat longer exposure so your image doesn't streak”.

But this limited capability doesn’t mean the cubesats cameras can’t be useful, even compared to photography from the vastly more expensive VIIRS, a full-sized infrared camera on board on a full-sized satellite. In fact, for certain applications the camera on the AeroCubes is even better: not only is it full color, but the satellites are in a lower orbit they can capture images of the ground at a resolution of around 100m for every pixel, rather than the 740m of VIIRS. This means you can see individual streets – which is exactly what you need if you want to monitor, say, urban growth or light pollution.



Cubesats! A step on the journey to Mars! (contd)

Up-to-date imagery

One other intriguing application that's currently being worked on is 'GPS occultation'. The idea is that a cubesat could be used to receive GPS signals that have travelled through the Earth's atmosphere, and measuring how the signals have been refracted it could enable scientists to make even more accurate weather forecasts.

Perhaps the clearest benefit of using cubesats, though, is something that normal satellites can't cheaply replicate: 'refresh rate'. Geostationary satellites, which maintain a fixed position relative to the Earth, can only orbit above the equator, which isn't useful for aerial photography or other types of observations. Satellites that photography the Earth have to be in less regular orbits, which means they won't always be above the same places – hence why Google Maps only refreshes its imagery every few years. But this is only a problem if you only have one massive, expensive camera.

As cubesats are cheaper and easier to make, they'e easier to launch en masse – so you could conceivably have many satellites with many cameras, taking more photos, and buzzing over our heads more regularly.

"If you can put a large number of sensors in orbit you begin to get [...] near real-time updates of what is going on at any given point on the planet, and this has very interesting Earth Science applications in terms of being able to monitor change [such as] the aftermath of severe weather events," says Chris Baker, who runs NASA's Small Spacecraft Technology program. He also points to an intriguing future where CubeSats could become, effectively, an early warning system.

"It requires some degree of autonomy, but say if the spacecraft can detect the initiation of that forest fire, it can warn assets on the ground, or potentially warn a larger [satellite] in orbit [saying]: 'Hey there's something interesting over here, swivel your camera in this direction and take a higher-resolution picture so we can tell what's going on'."

Cubesats! A step on the journey to Mars! (contd)

Less cost, less risk

What's most exciting though, is the second-order consequence of cheaper launches: faster innovation.

"The space industry has until recently been extremely risk-averse," says Rafael Jorda-Siquier, CEO of Open Cosmos, an Oxford-based space startup, which is aiming to provide space launches for as little as £500,000 (about $650,000 or AU$900,000). He says that traditionally, space technology has been stuck in what he calls a "vicious cycle".

"The more expensive the technology is, the more you want to test on the ground so you make sure that it works," he says. "You end up with a massive satellite, [that's] very expensive, all over-engineered and in many cases using old technology. In space this usually means they fly obsolete technologies and they fly microchips from the 1980s."

Cubesats, however, can short-circuit this cycle and enable space technology to be upgraded faster, as they're cheaper to build and there's less money at risk if they don't work or go wrong.

"The fact that some of these spacecrafts deorbit rather quickly is seen by some in the industry as an asset, because they already have the next generation waiting for launch," notes NASA's Chris Baker. And the best part? Technology mastered on cubesats could eventually help take us to Mars.

"The scale of what is possible on a small satellite is actually not too far from what the scale that is required on a manned vehicle," says Baker, who is thinking about NASA's new Orion space capsule for humans, which is currently under development.

"While that is a large spacecraft, the majority of the space is devoted to the humans. A communications system that sits on a cubesat, for example, would most certainly sit on the Orion crew vehicles. So there's the potential for the technologies being tested on small spacecraft to provide early and more frequent opportunities to test mission-enhancing capabilities for human exploration."

So perhaps when humans finally do get around to heading to Mars, they could be on their way thanks to a little push from some rather diminutive satellites.

James O'Malley tweets as @Psythor.

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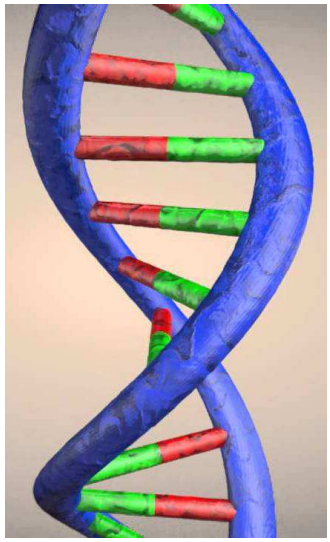
The O'Malley Clan Association aims to reach out to O'Malleys from all around the world and foster links between the O'Malleys around the globe and the clan at home here in Ireland.

The Clan Association formed in 1953 has been connecting O'Malleys around the world in The US and Canada, Britain, Australia, South Africa, New Zealand, South America, and anywhere else you can think of for over 60 years now.

We hope with our new website, and newsletter, that We can go from strength to strength in our aim to connect all the O'Malleys around the world.

The O'Malley Clan DNA Project on Family Tree DNA

The most common queries we get at The O'Malley Clan Association are queries in relation to helping to trace peoples ancestors in Ireland. As we all know, written records can only take us so far, (if you're lucky you'll get back to the early 1800's or late 1700's).



Many of the Irish Census Records and other historic documents were destroyed during the early part of the 20th century and as a result it can be very hard to trace ancestors back beyond the 19th century. Church records are a help, but can be patchy at times.

One way of narrowing down the search is through DNA testing. The O'Malley Clan Association is involved in a project with Family Tree DNA to test as many O'Malleys as possible to try and expand our knowledge of our roots as much as we possibly can.

There's a specific page for the project on the Family Tree DNA website:

https://www.familytreedna.com/groups/omalley/about

Check it out, there's lots of info there, and administrators also for any questions.

FamilyTreeDNA