

Searching for aliens in the cloud

May 7 2014, by Andrew Smith And Yijun Yu



If you can't reach me on the phone, why not try Twitter, Instagram or Foursquare? Credit: Denis Bourez, CC BY-SA

As a species, human beings are obsessed with the idea that there may be aliens out there, somewhere beyond our planet.

This obsession really took off in the late 19th century, when suggestions that there might be [canals on Mars](#) and popular books such as [War of the](#)

[Worlds](#) by HG Wells did little to quell excitement over the chance that we might be sharing our universe with others.

But despite this passion for all things extra-terrestrial, we haven't come up with much. Maybe we're doing it wrong. It might be time for us to start revisiting old data with new techniques.

Will ET phone us, or phone home?

As radio technology and radio astronomy developed, we soon discovered that there are plenty of interesting noises and signals coming from space. These are caused by our Sun and other astronomical objects, such as [Pulsars](#). That prompted us to start listening out for noises that could be something else.

The thinking behind this is that we humans are constantly [leaking radio waves](#) out into space and we have been doing so since 1897. Every time we make a radio broadcast or have a conversation on our mobile phone or even via an old fashioned walkie-talkie, we send something else out there. Everything we have ever sent wirelessly is travelling around somewhere beyond this planet. If there was an alien passing by, one can only wonder what they may think of us.

And in the hope that the same might be true in reverse, the Search for Extra Terrestrial Intelligence ([SETI](#)), has been working for more than 50 years to investigate whether any other intelligent life forms are trying to contact us by looking at what comes our way.

SETI's view is that an intelligent species would, if they were trying, send us a clear signal that was easy to interpret. It would probably be something mathematical such as a series of [prime numbers](#).



Canals on Mars?

So radio telescopes are always pointing spacewards, capturing all radio signals. That's where we could find communications, among all the galactic back ground noise.

Since 1999, [SETI@home](http://setihome.org), which is part of the University of California, has been getting volunteers to donate some of their spare computer time to help the search. This comes in the form of a screensaver, which activates when you have left your computer unattended. After all, your expensive, very powerful computer processor is now sitting there doing very little in computational terms.

This has proved to be a considerable hit, with enthusiasts all over the world donating their computing power. It works thanks to a simple yet clever form of [distributed computing](http://en.wikipedia.org/wiki/Distributed_computing). SETI servers give your computer a small amount of data to process and your machine sends it back for analysis once it is finished. Multiple computers can work on a large data set, reducing analysis time as well as the considerable cost that would

come with using an array of computers the size of a [Google Cluster](#) to solve the problem.

Despite its popularity, people are starting to wonder how it is that nearly half a century has passed without so much as a peep out of our alien neighbours. Some think the current approach is not quite the right way to go about making intergalactic friends after all.

We could look at how to update the SETI approach using [new technology](#) and methods if we want to up our alien-hunting game.

The programme could be more successful and [meaningful](#), for example, if greater weight was given to the [radio signals](#) coming from the direction of ExoPlanets and ExoMoons in the Goldilocks zones.

And given that SETI data has been accumulated over 40 years, it might now be time to revisit some of it, taking a different approach. Cloud computing or something like [what Google Streetcar time travel view does now](#) would make it easier to distribute such recalculations globally again. So you could select one astronomical location, such as a star cluster and compare the data collected over different time periods against the other regions of space.

Processing this amount of data would have been near impossible in SETI's early days but is now a relatively standard operation. People all over the world have shown that they are ready to pitch in their [computing power](#) to look for aliens, so this might be the perfect time to empower them even more.

With all this new technology though, we might once again need to start thinking about whether our alien neighbours actually want to be contacted or if they would just prefer to be [left alone](#).

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