EXPLORE SCIENCE

Citizen Scientists/Open Source Scientists

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NASA’s citizen science projects are **science projects that rely on volunteers.**

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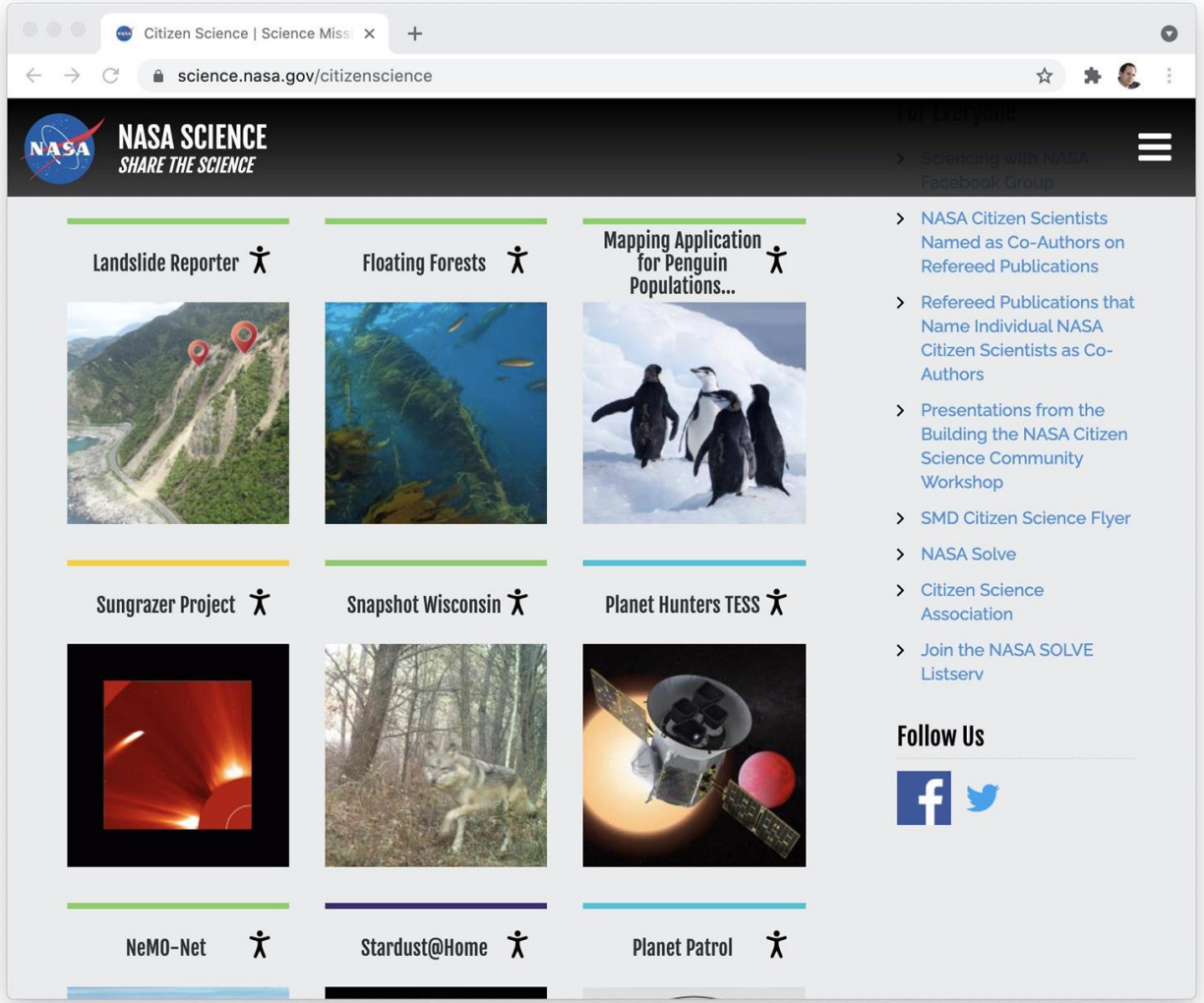
science.nasa.gov/citizenscience

25 active NASA projects online



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NASA's citizen science projects now **dominate** their scientific fields. They have discovered:

- **Most** of the known comets
- **All** of the known samples of interstellar material
- **Half** of the ultracool brown dwarfs
- **Most** of the long period (>2 yr) extrasolar planets

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NASA citizen scientists have discovered:

- The first extreme T subdwarfs
- Zika virus in Peruvian cemetery vases
- The oldest white dwarf debris disk
- The “Dipper” star phenomenon
- The “Peter Pan” disk phenomenon
- The star-forming regions called “yellowballs”.
- 400,000 Martian seasonal fans
- 283,000 emperor penguin nests
- 8,900 mosquito breeding sites
- 7 meteorites
- One new *kind* of aurora named STEVE

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191 NASA Citizen Scientists Have Become **Named Co-Authors** on Scientific Papers

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NASA citizen science involves > 1.5 million volunteers including

~90,000 people with graduate degrees.

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Our Citizen Scientists Write Codes!

Dan Caselden

ASCL.net - WiseView: Visualizi ×

ascl.net/1806.004

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[ascl:1806.004] WiseView: Visualizing motion and variabili

Caselden, Dan; Westin, Paul III; Meisner, Aaron; Kuchner, Marc; Colin, Guillaum

WiseView renders image blinks of Wide-field Infrared Survey Explorer (WISE) c
baseline in a browser. The software allows for easy visual identification of mot
beyond the single-frame detection limit, a key threshold not surmounted by n
transparently gathers small image cutouts drawn from many terabytes of unWISE coadds, facilitating access to this large and unique dataset. Users need only input the coordinates of interest and can interactively tune parameters including the image stretch, colormap and blink rate. WiseView was developed in the context of the Backyard Worlds: Planet 9 citizen science project, and has enabled hundreds of brown dwarf candidate discoveries by citizen scientists and professional astronomers.

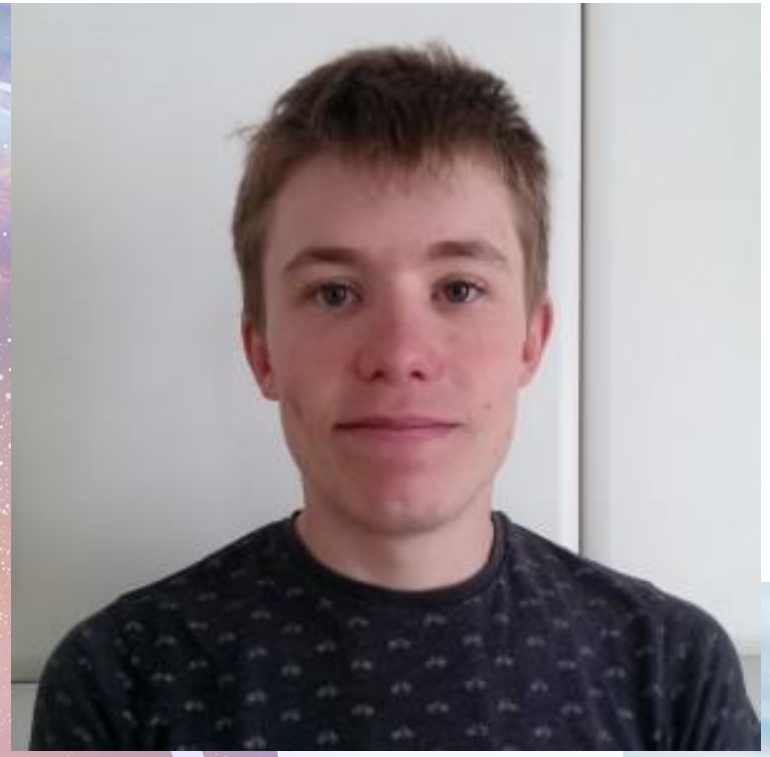
Code site: https://github.com/backyardworlds/wiseview

Appears in: http://adsabs.harvard.edu/abs/2017arXiv171002526M

Bibcode: 2018ascl.soft06004C

Explain these fields?

Our Citizen Scientists Write Codes!



Tom Bolton

Physics Ph.D. student.
His penguin population dynamics model outperformed the model created by ecologists.

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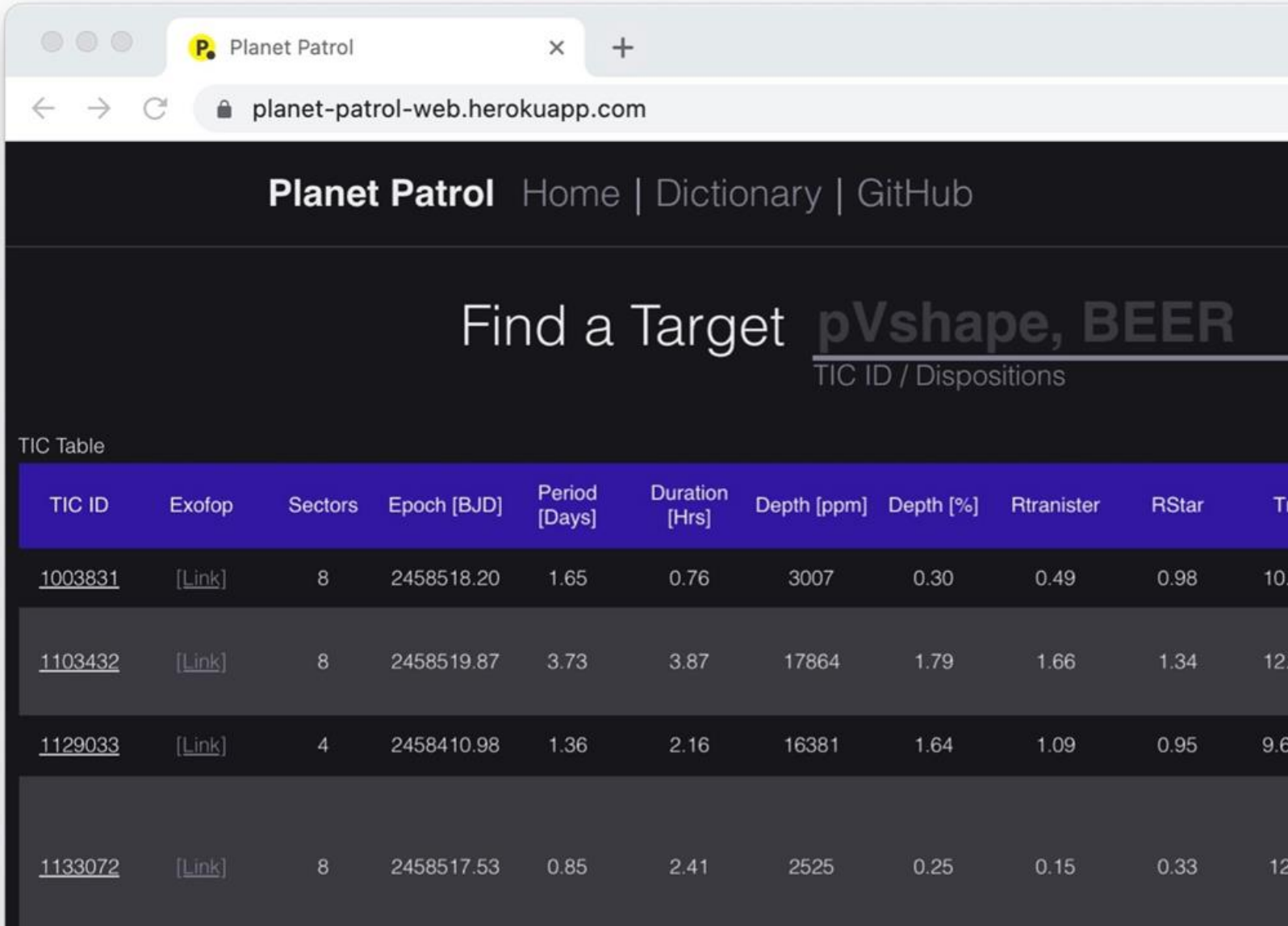
Our Citizen Scientists Write Codes!

High School student
Ryan Salik

Wrote vetting tool for
Planet Patrol



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However, citizen scientists:

- don’t know our jargon.
- don’t know our culture
- don’t know where to find our data and tools

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90,000 NASA citizen scientists with graduate degrees.

Keep them in mind as you work to open science!