

# Citizen Science for Astronomy

During the last years we have seen a boom in projects related to [Citizen Science](#). The idea behind these is the active participation of citizens in the process of collection and processing of data where, especially in the field of Astronomy, can be voluminous and way off the handling capabilities of the professionals (particularly when the contribution of a human instead of an automated process is needed). Moreover, the continuous advance of the technology and internet accessibility has offered new capabilities in the interaction of the professionals with the participants.

The HAAA has always been supportive and an advocate of the amateur contribution to the science of Astronomy. Therefore, we created the current page with a goal to collect and highlight all (possible) Citizen Science projects related directly to Astronomy.

In case you have an addition or spot a change (given the dynamic nature of these projects), feel free to suggest it to us below at the comments section and we will include it (along with your name!) in the next update.

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## Active projects

### [Backyard Worlds: Planet 9](#)

> discriminate between real celestial objects (brown dwarfs, low-mass stars) and bogus images from the space telescope WISE

### [COSMIC](#)

> classification of Martian surface features  $\sigma_{\text{top}} \text{ \AA}$

### [Galaxy Zoo](#)

> galaxy classification with images from Dark Energy Camera, from the ground-based 4m Victor Blanco telescope (Chile)

### [Galaxy Zoo: Clump Scout](#)

> discovering galaxies with clumps

### [Gravity Spy](#)

> identify gravity waves in LIGO data

### [HotShots](#)

> discover the electromagnetic counterpart of gravitational wave sources

### [Hubble Asteroid Hunter](#)

> detecting asteroid traces in images from the Hubble space telescope

### Local Group Cluster Search

> detecting star clusters in nearby galaxies – Large Magellanic Cloud is left

### Planet Four

> detecting and measuring features on the surface of Mars, with images from the HiRISE camera onboard the space mission Mars Reconnaissance Orbiter

### Planet Hunters TESS

> discovering new exoplanets from light curves with data from the space telescope TESS

### Project PHaEDRA

> digitization of female astronomers

### Radio Galaxy Zoo: LOFAR

> detection of supermassive black holes and starforming galaxies, through radio observations from LOFAR

### Radio Meteor Zoo

> data analysis from the radio network BRAMS for meteor detection

### SCOPE

> stellar spectral classification from photographic plates

### Snapshot Supernova

> discovering supernova from images obtained through the 1.m telescope (Siding Spring, Australia)

### Solar Stormwatch II

> monitoring solar storms from STEREO images

### SuperWASP Variable Stars

> classify variable stars from light curves

### Variable Star Zoo

> classification of new variable stars at the Galactic Center from light curves from VVV survey

### Zwicky's Quirky Transients

> distinguish between real and erroneous detections from the Zwicky Transient Facility

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## **Completed projects**

### Euclid – Challenge the Machines

> modeling images of gravitational lens for observations with the space telescope Euclid

### Exoplanet Explorers

> detecting exoplanets from light curves by Kepler K2 mission

### Galaxy Builder

> modeling galaxies

### Galaxy Nurseries

> detecting galaxies in Hubble images

### Milky Way project

> detecting and classifying dusty regions from images from space telescopes Spitzer and WISE

### Moon Zoo

> feature detection on Lunar surface from space mission Lunar Reconnaissance Orbiter