

The Radio JOVE Project and Citizen Science

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The Radio JOVE Project (radiojove.gsfc.nasa.gov) has been operating as an educational activity for 20 years to promote science literacy to students, teachers, and the general public. Participants learn about radio astronomy by building their own radio telescope at 20 MHz from an inexpensive kit and/or using remote radio telescopes through the internet. They collaborate with each other through interactions and sharing of data on the network. Institutions and more advanced observers can set up a radio spectrometer designed to monitor radio waves from Jupiter and the Sun in the 15-30 MHz spectrum, as well as, study radio propagation through the ionosphere and space weather.

Radio Jove has recently partnered with the NASA Space Science Education Consortium (NSSEC) to work with interested amateurs and partner institutions to establish radio observing stations for citizen science projects. These stations will help build a larger amateur radio science network and increase the spatial coverage of long-wavelength radio observations across the US. These data are archived for research projects.

I will overview citizen observations of Jupiter decameter emission, solar radio emissions, and interesting terrestrial lightning events. I will also give a short demonstration of the Radio JOVE telescope hardware and software.

Dr. Higgins received his M.S. and Ph.D. in astronomy from the University of Florida where he studied radio emissions from the planet Jupiter. He received his B.S. in physics from the University of Alabama-Huntsville. Dr. Higgins teaches undergraduate lecture and lab courses in astronomy and physics, including general astronomy, general physics, astrophysics, and classical mechanics. His research interests are the radio emissions from Jupiter and the Sun, using both ground-based and spacecraft data in his studies. He is a founding member of a NASA-sponsored citizen science and education project called Radio JOVE that uses radio astronomy to promote scientific inquiry.

Dr. Higgins is the advisor of the MTSU Astronomy Club and he mentors undergraduate students with their research projects. Prior to joining MTSU, Dr. Higgins was a National Research Council postdoctoral fellow at NASA's Goddard Space Flight Center. He is a frequent hiker in many of the great state parks in Tennessee.