Star Necklace

Sterling silver, fine silver, copper, rare earth magnets (nickel-plated, gold-plated), cord

Dimensions: 35 mm x 25 mm

Star Pendant Image: ©Green Vale Gallery

Inspiration:

Doctor Lisa Harvey-Smith

Lisa Harvey-Smith's astronomical research investigating the birth and death of stars and the origin and nature of cosmic magnetic fields, and her involvement in development of the Square Kilometre Array radio telescope facility, are celebrated in a necklace featuring a star-shaped rare earth magnet. The necklace pendant has a form recalling the curvature of telescopes, and is made of silver and copper, referring to the red-brown colours dominant in the landscape of the location for the Square Kilometre Array.

Materials:

Sterling silver, fine silver, copper, rare earth magnets (nickel-plated, gold-plated), cord

Method:

Sheets of copper and fine silver were stacked together and then subjected to high temperature and pressure. A small amount of each metal diffused to the surface of the other during this process. The metal sheets were curved by the locally-applied pressure of a rolling mill. The curved sheets were soldered together, convex outwards. A nickel-plated, star-shaped, rare earth magnet was placed on the outside and a gold-plated rare earth disc magnet placed inside the structure, holding the star decoration in position. A cord was slid through the middle of the curved structure, and the piece completed with commercially-produced silver chain and catch.

Results:

"Catch a falling star" ... and keep it in place magnetically - the star is held but able to rotate because of the field between this star and a magnetic disc included in the system. The piece has a simplicity of structure aided by the mechanism for suspension of the pendant being incorporated in its form.

Box made from salvaged Australian native timbers by Gary Field for Labpunk and AIP Congress 2014.

(Queensland Maple lid and Red Gum body)