

DCGIA Gem Identification Equipment Workshop
Sunday, May 19, 2013
Holiday Inn Rosslyn
1:00PM to 5:00PM

This is an educational workshop providing tools of the trade and DCGIA member Graduate Gemologists for assistance and questions. Special Guest **Gail Brett-Levine**

10x Loupe - After the eye and the brain, the 10x Loupe is the instrument most used by gemologists. It is used to inspect the interior and exterior of a gemstone, and is the primary instrument used for clarity grading of Diamonds.

Microscope – Important tool for anyone interested in gems. Use it to see the gem up close and personal, notice inclusions, flaws, color, refraction and all that is amazing inside a gem.

Spectroscope - a tool for examining which parts of white light are absorbed by a gemstone (as well as by other materials). Materials can absorb parts of the electromagnetic spectrum, and when the absorbed parts fall within the visible range, that absorbed part will influence the color of the material. When a gemstone is observed with a spectroscope, the absorbed parts show as dark lines and/or bands in the spectroscope image.

Refractometer - used to help identify gem materials by measuring their refractive index.

Dichroscope - The dichroscope is an important pocket instrument used in the field of geology, and can be used to test transparent gemstones (crystals). Experienced geologists using pleochroism can successfully detect gemstones from other artificial stones using this instrument. There are two types of dichroscopes available: calcite and polarizing. Of the two, calcite gives better results and is widely used by experienced gemologists. With the polarizing type, only one pleochroic color can be seen at a time. This makes the process time-consuming and difficult, although it is the most economical way to get results.

Chelsea Filters - used to rapidly distinguish between genuine Emeralds and the pastes and doublets which resemble them, it also is a valuable aid in identifying other colored stones, as well. one could gemologically separate some natural emeralds from imitations and other green gems by observing them through the filter.

Polariscope - one of the most underestimated tools in gemology. Most gemologists use it to quickly determine if the stone at hand is isotropic or anisotropic or, at best, to determine the optic character of gemstones. With some small additions, one can determine both optic character and the optic sign of a gemstone. It is also the preferred tool -- next to the microscope -- for separating synthetic amethyst from its natural counterparts (although with recent synthetics that may prove difficult).

Conoscope - (a strain free acrylic or glass sphere on a rod) use to determine optic character (uniaxial or biaxial) in anisotropic gemstones. The conoscope creates a 2-dimensional image of the 3-dimensional interference in a mineral.