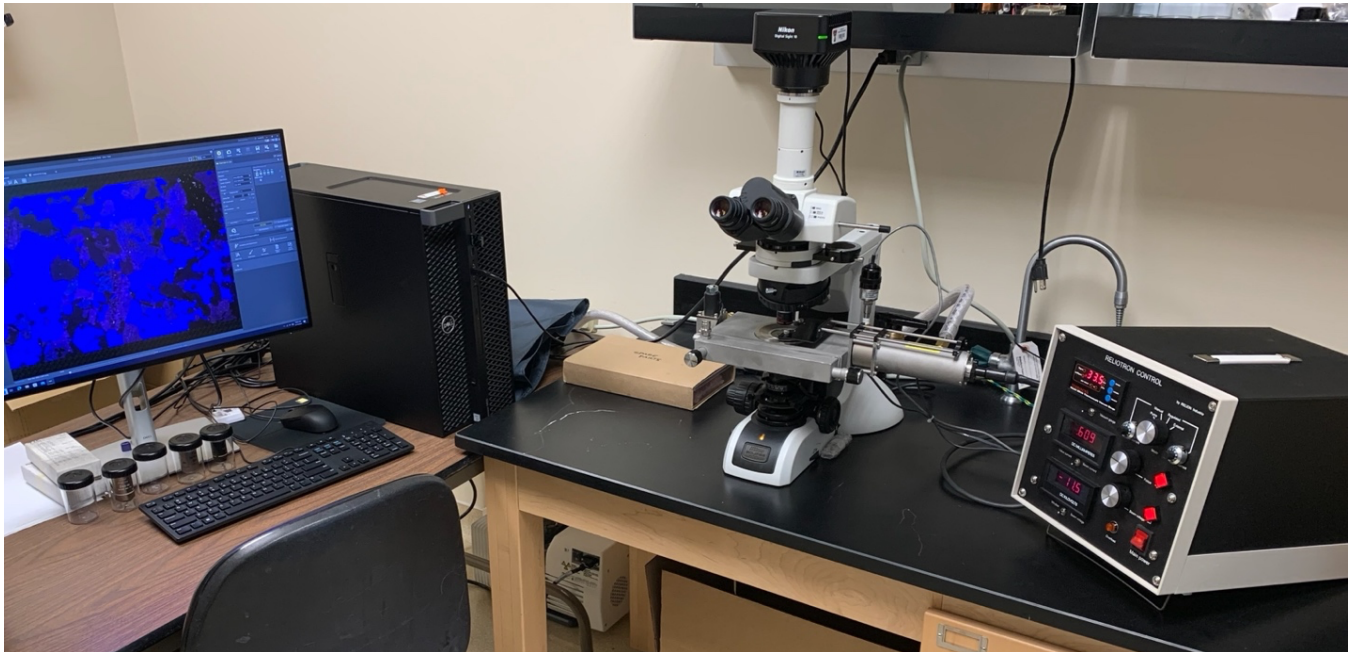
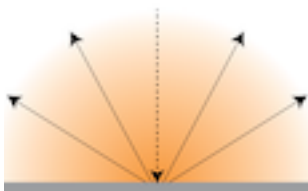


The RELIOTRON Cathodoluminescence System



... a microscope-mounted cathodoluminescence (CL) system, designed for the primary purpose of looking at thin sections of materials (but also slabs, loose grains, grain mounts, etcetera ...).

- Stainless Steel vacuum chamber, with ~45mm -diameter leaded top window.
- Dual Stage Rotary Vane vacuum pump with foreline trap and exhaust oil mist eliminator (“Dry” Scroll or Screw vacuum pump options available).
- Vacuum seals are Viton O-rings, Teflon chevron packings, and nylon Swagelok ferrules.
- Easily serviceable Cold-Cathode Discharge Electron Source normally operated between 5 and 15 kV, with regulated beam currents from 0 to 1 mA (other HV power supply options available).
- Removable drawer with XY motion mechanism for sample changes, service, or repair.
- 50 mm x 75 mm Sample Tray accommodates up to three standard thin sections, a macro-section, or slabs of up to ~10 mm thick (Tall Chamber version accommodates samples up to ~30 mm thick).
- Conductive coating of samples is not necessary and should be avoided for best CL emissions.
- Electron beam can be unfocused (5 to 10 mm spot), focused (~1 mm spot), or defocused for areas of up to ~50 mm diameter for “macro” observations or macro-photography.
- Adjustable deflection magnets allow control over position of the electron beam spot.
- Recommended working distance for microscope objectives: minimum ~10mm, but 15 mm or more is better; ~6 mm possible with use of the optional re-entrant top window.



Relion Scientific LLC

web : relionscientific.com

Timothy Allen, Ph.D.

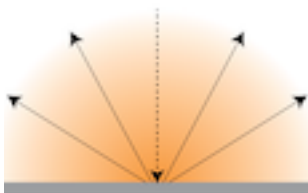
347 Farley Road, Hillsborough, NH 03244, USA

tim@RelionScientific.com | +1-603-209-9222

successor to RELION Industries, LLC, of Bedford, Massachusetts, USA

RELION Cathodoluminescence System Accessories and Options

- The **definitive book** "*Cathodoluminescence of Geological Materials*" by Dr. Donald J. Marshall, with 12 color plates and a chapter contributed by Dr. Anthony Mariano.
- **Storage Stand with Mounting Plate** (for RELIOTRON, LUMINOSCOPE, and others – mounting plates for systems other than RELIOTRON are special orders).
- **Loose Grain Sample Holder**, 2" x 3" (for RELIOTRON, LUMINOSCOPE, and others)
- **Chillable Sample Holder** - some samples give off different CL emissions when extremely cold (for RELIOTRON, LUMINOSCOPE, and others).
- **Re-entrant Window** for the RELIOTRON facilitates the use of higher power microscope objectives with shorter working distances (down to ~6 mm).
- Adapter Hardware to run the RELIOTRON (or LUMINOSCOPE) on **Helium instead of Air**; please specify the OD size of the tubing coming from your Helium tank regulator.
- **"XY" and "XY+Focus" automation systems**, based on the Ludl Electronic Products MAC6000 controller, are available for the RELIOTRON chamber.
- **Microscopes and Digital Imaging Hardware and Software Packages** are available.
- The **RELION Microsampling Apparatus** for use with a Stereo Microscope equipped with an appropriate digital camera and software package - overlay the live image from the microscope over a previously-captured image from your CL system to help direct the sample drill and collection system!
- **Visible Light Spectrometers** can be fitted to your RELIOTRON CL system (special order).
- **Energy Dispersive X-ray Spectrometers** can be fitted to your RELIOTRON CL system (special order).
- The RELIOTRON **Tall Chamber version** is an alternative to the RELIOTRON Standard Chamber version; it can accommodate samples up to about 30 mm thick -- the Standard Chamber is designed for standard petrographic thin sections, thick sections, and thin slabs, accommodating samples up to about 10 mm thick. Of course, you can still work with thin sections in the Tall Chamber version.
- **Refurbished Systems** (LUMINOSCOPE or RELIOTRON) systems are occasionally available.
- We do **On-site Service Calls** as well as Service, Repair, or complete Refurbishment of CL equipment at our facility.



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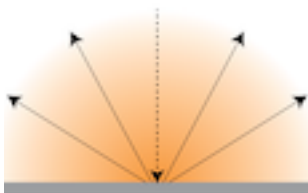
tim@RelionScientific.com | +1-603-209-9222

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Customer List 2022 - 2025

- Al-Arkan Scientific and Medical Co. (Saudi Arabian distributor) (*)
- Beijing Megatoo Science & Technology Co., Ltd. (Chinese distributor)
- Bloomsburg University, Bloomsburg, PA (*)
- Brigham Young University, Provo, UT (*)
- Bucknell University, Lewisburg, PA (*)
- Colorado State University, Fort Collins, CO (*)
- Gustavus Adolphus College, St. Peter, MN (*)
- Indian Institute of Technology, Kharagpur, India
- King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia (*)
- Lawrence University, Appleton, WI (*)
- Loma Linda University, Loma Linda, CA (*)
- McGill University, Montreal, QC, Canada (*)
- Polytechnique Montreal, QC, Canada (*)
- Private Company, WA (*)
- Queen's University, Kingston, Ontario, Canada (*)
- Texas Tech University, Lubbock, TX (*)
- University of British Columbia, Vancouver, BC, Canada (*)
- University of Connecticut, Storrs, CT (*)
- University of Illinois-Urbana/Champaign, IL (*)
- University of Milan, Italy
- University of North Dakota, Grand Forks, ND (*)
- University of Puerto Rico at Mayagüez, PR
- University of Quebec at Montreal, QC, Canada (*)
- University of Vermont, Burlington, VT (*)
- University of Wisconsin-Oshkosh, WI (*)
- USGS, Denver, CO (*)
- USGS, Spokane, WA (*)
- Virginia Polytechnic Institute, Blacksburg, VA

(*) field service calls or installations



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Timothy Allen, Ph.D.

347 Farley Road, Hillsborough, NH 03244, USA

tim@RelionScientific.com | +1-603-209-9222

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