

The Journey from an Unknown to a New Mineral

Dr. Anthony R. Kampf

There are now more than 6000 known mineral species and that number is growing by more than 100 each year. The long-held notion that there is a limit to the number of mineral species does not account for the existence of exotic geologic and geochemical environments (some extraterrestrial), which continue to come to light and others that have only recently been explored. Mineralogy books tell us about some of the basic tests (streak, hardness, cleavage, density, etc.) that can be used to identify a mineral; while such properties are important in characterizing minerals, they have limited usefulness when it comes to unambiguously identifying an exotic phase, or determining that it is a new mineral. Even as technological advances provide give us powerful new ways to investigate the nano world, traditional X-ray diffraction remains one of the most important tools in the search for and characterization of new minerals. Dr. Kampf will lead us on the journey from the finding of an unknown mineral to its description as a new mineral species – a journey that he has now taken more times than anyone else in the world.