

Meet the Authors



Bertrand Devouard is an assistant professor at the Laboratoire Magmas & Volcans at the Blaise Pascal University in Clermont-Ferrand, France. He graduated from the ENSG in Nancy,

France, and completed his PhD at the University of Marseille in 1995. He worked as a post-doctoral fellow in RUCA-EMAT (Belgium) and in the 7*M group at Arizona State University. His research focuses on the relationship between microstructures, properties, and growth processes of crystals. He applies electron microscopies, microdiffraction, microanalyses, and spectroscopies to the study of a wide range of materials. His interest in gems began when he contracted for a project on ruby chemistry at the GIA research laboratory in 1990.



Emmanuel Fritsch is a professor of physics at the University of Nantes in western France. He holds a geological engineering degree from the ENSG, Nancy, France, and a PhD from the Sorbonne in

Paris. He worked for nearly ten years at the Gemological Institute of America (GIA) and was manager of GIA Research from 1992 to 1995. He currently conducts research at the Institut des Matériaux Jean Rouxel (IMN-CNRS) in Nantes. His interests include advanced techniques applied to gemology, color in gems (especially diamonds), treated and synthetic gems, opals, and pearls.



Jean-Pierre Gauthier is a retired professor of physics at the University of Lyon I, France. His research focused mostly on crystallographic structures revealed by means of transmission

electron microscopy and electron diffraction. After various studies on the surface properties of metals and semiconductors treated by ion implantation or chemical vapor deposition, he oriented his work towards synthetic inorganic materials (like polytypism in industrial moissanite, the subject of his PhD) and gems (special arrays of silica spheres in opal), including biominerals (shells, pearls, and coral). He is also interested in optical phenomena in gemstones: interferences, diffraction, chatoyancy, and asterism.



Lee A. Groat is a professor in the Department of Earth and Ocean Sciences at the University of British Columbia, Canada. He received his doctorate from the University of Manitoba

and was a NATO Postdoctoral Fellow at the University of Cambridge. His research interests include the crystal chemistry of minerals, the geology of gem deposits, and granitic pegmatites, and he has published approximately 100 scientific papers and book chapters. He was editor of *American Mineralogist* from 2001 to 2005. In 1999 he received the Young Scientist Award of the Mineralogical Association of Canada, and in 2003 he became a Fellow of the Mineralogical Society of America.



Robert E. Kane is president and CEO of Fine Gems International in Helena, Montana. He began his career at the GIA Laboratory, where he was manager of gem identification from 1978

to 1992. After pursuing independent research and gem exploration, he was named director of the Gübelin Gemmological Laboratory in Switzerland in 1996. Mr. Kane has traveled internationally to gem sources and is well known for his research articles and lectures on diamonds, colored stones, and gem identification. Many of his award-winning articles have been published in *Gems & Gemology*, where he has served on the editorial review board since 1981.



Stefanos Karampelas is a postdoctoral fellow at Gübelin Gemmological Laboratory in Lucerne, Switzerland. His research focuses on the identification and quality grading of pearls. His work also

includes nondestructive spectroscopy applied to organic gems and other gem materials. He obtained his doctorate jointly from the Aristotle University of Thessaloniki, Greece, and the University of Nantes, France, where he studied the nature and detection of pigments in natural and treated pearls and corals.



Brendan M. Laurs is editor of *Gems & Gemology* at the Gemological Institute of America (GIA) in Carlsbad, California. He is a gemologist and geologist specializing in the formation of gem

deposits. He obtained a BS degree in geology at the University of California Santa Barbara in 1991 and an MS degree in geology from Oregon State University in 1995. Brendan worked as an exploration geologist for colored gemstones (benitoite and red beryl) with Kennecott Exploration Co. in 1995 and then moved to GIA in 1996. He received his Graduate Gemologist diploma from GIA in 1997, and in 2006 he cochaired, with Jim Shigley, GIA's first-ever Gemological Research Conference in San Diego.



Shane F. McClure is director of West Coast Identification Services at the GIA Laboratory in Carlsbad, California, USA. He has been a contributing author on many articles published in GIA's quarterly journal *Gems & Gemology*, as well as in

many other publications. He won *Gems & Gemology* Most Valuable Article award seven times in the 1990s. In 2007 he was the recipient of the Antonio C. Bonanno Award for excellence in gemology. Mr. McClure is also a coeditor of the Gem Trade Lab Notes section of *Gems & Gemology* and an accomplished gem and jewelry photographer and photomicrographer.



Franck Notari is director of the independent laboratory GemTechLab in Geneva, Switzerland, which he established in 1998. He was also laboratory manager and research manager at GIA

for two years. He obtained his DUG diploma (University of Nantes) in 1996 on Padparadscha sapphires. He has published numerous articles, particularly on colored diamonds and colored gems (spinel, tanzanite, euclase, etc.). He also gives laboratory gemology classes at the University of Nantes on the detection of treatment (corundum, tanzanite, black diamond, etc.) and synthetic gem identification. Franck Notari mainly carries out research on corundum (geographical origin, treatment, synthesis) and on colored diamonds.

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Benjamin Rondeau is an assistant professor of Earth sciences at the University of Nantes, France. He received his PhD from the Muséum National d'Histoire Naturelle (MNHN) in

Paris, France. For nine years, he was assistant curator of the collections of rocks, minerals, and gems at the MNHN. He was also highly involved in the 2001 Diamonds exhibit. His research focuses on the geological conditions of gem formation and on the properties of gem materials.



George R. Rossman received his PhD in inorganic chemistry from Caltech, where he is now Professor of Mineralogy. His research involves the use of spectroscopic probes to study minerals. These


methods directly address the origin of color in minerals and gems. He has also studied biominerals, weathering products, and radiation-damaged minerals, including long-term color changes in minerals that result from exposure to background levels of natural radiation. He was the recipient of the inaugural Dana Medal of the Mineralogical Society of America.



James E. Shigley is a distinguished research fellow at the GIA Laboratory of the Gemological Institute of America in Carlsbad, California. Prior to joining GIA in 1982, he earned a

bachelor's degree from the University of California, Berkeley, and a PhD in geology from Stanford University. His main research interest is characterizing natural, synthetic, and treated gem materials in order to develop practical means for their identification.

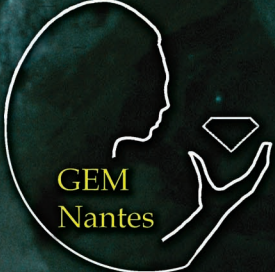
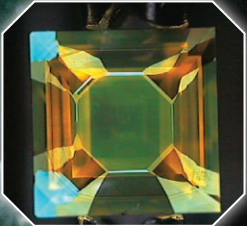
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