

# Gems & Gemology Turns 90!



Welcome to the Spring 2024 issue of *Gems & Gemology*! With this new volume year, we reach a special milestone at *G&G*: our 90th anniversary. In this first issue of our 90th year, we present research studies on colored stones and treatments, recap the Tucson gem shows, highlight an extraordinary garnet necklace, and offer our annual *G&G* Challenge quiz.

Turquoise has been highly valued in China for thousands of years. Our lead article examines turquoise from the Tianhu East deposit in Xinjiang, China. Following a summary of the area's geology and the results of studied samples, Ling Liu and coauthors identify atacamite as a unique geographic origin indicator differentiating Tianhu East turquoise from other Chinese turquoise. The authors also propose a hypothesis for the origin of the deposit.

*“...we reach a special milestone at G&G: our 90th anniversary.”*

Next, a team led by Zhaoying Huang investigates a translucent variety of jadeite jade from Guatemala known as “ice jade” that has become prominent in the Chinese market, second to jadeite jade from Myanmar. The authors detail the structural characteristics, mineral compositions, and color origin of the pale green material from the Morales mine in the Izabal Department of Guatemala.

In our final feature article, Tsung-Jen Wu's research team analyzes colored gemstone coatings, using coated synthetic moissanite as a case study. Applying nanoscale analytical methods, the authors provide a basis for characterizing colored coatings on gemstones and identifying possible techniques used in the coating process.

Our regular features have much to offer as well. *Lab Notes* continues to deliver interesting reports from GIA's global laboratories, including a natural blue diamond colored by fine milky cloud inclusions, a resubmission of a CVD-grown diamond after HPHT treatment, and a study of pearls from windowpane oysters. *Micro-World* provides a glimpse at the inner beauty of gemstones, highlighting an intriguing inclusion in a Kashmir sapphire, stunning pink and red epidote crystals in quartz, colorful parallel rays of light in rainbow lattice sunstone, and more. The latest installment of *Diamond Reflections* explores how superdeep diamonds make their way to the earth's surface. Our *Gem News International* section begins with 30 pages covering the 2024 Tucson gem shows: trends, noteworthy designs, and interesting finds. The GNI regular features report on beryl with emerald rims from Newfoundland, phenomenal emeralds from Pakistan, Liberian ruby, and more. Also in this issue, we put a spectacular collaboration by Mary van der Aa and Todd Wacks *In the Spotlight*. The “Garanatus” necklace, featuring 28 garnets from all over the world, recently won two AGTA Spectrum Awards.

Finally, test your knowledge of our 2023 feature articles in the annual *G&G* Challenge, and find out which of those articles earned a Dr. Edward J. Gübelin Most Valuable Article Award.

Throughout our 90th anniversary year, we will renew the journal's longstanding commitment to the gem trade with a variety of special content features. We hope you enjoy this first issue!

Duncan Pay | Editor-in-Chief | [dpay@gia.edu](mailto:dpay@gia.edu)