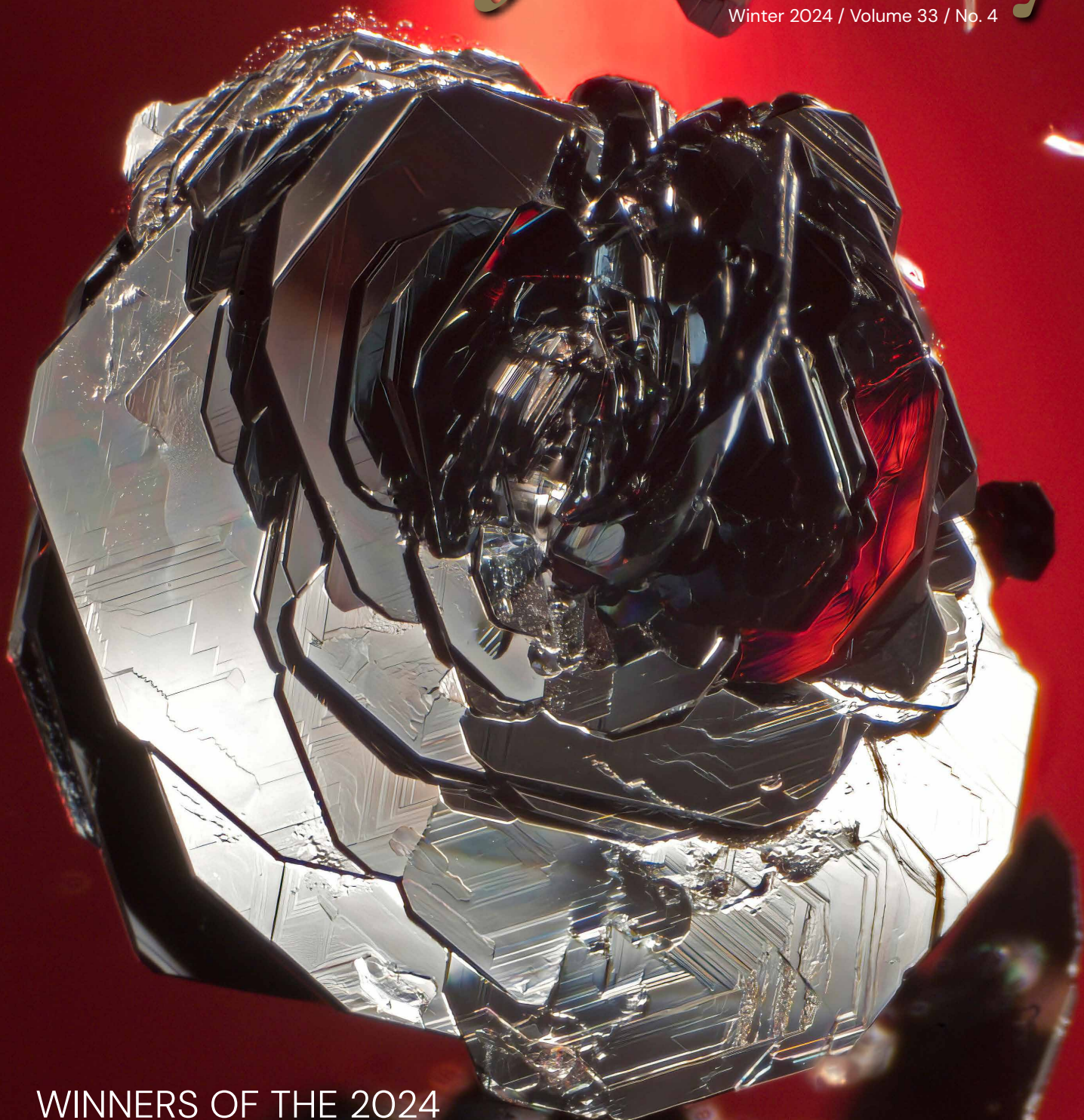


Gems & Jewellery

Winter 2024 / Volume 33 / No. 4



WINNERS OF THE 2024
PHOTOGRAPHER OF
THE YEAR COMPETITION

SUSTAINABILITY RATED
DIAMONDS CERTIFICATION
STANDARD

MARCUS MCCALLUM'S
40-YEAR CAREER

INCLUSIONS IN
DEMANTOID GARNET
FROM IRAN



GemA
The Gemmological
Association of
Great Britain

SAVE THE DATE

Saturday 1
& Sunday 2
November

GemA
Conference
2025



Gems & Jewellery

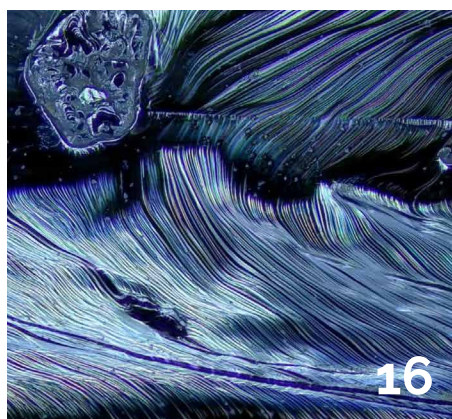
WINTER 2024

THE SCS-007 CERTIFICATION STANDARD

A robust certification that is helping redefine responsible sourcing in the diamond industry.



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PHOTOGRAPHER OF THE YEAR

An inside look into the photomicrographs that captured our imaginations in 2024.

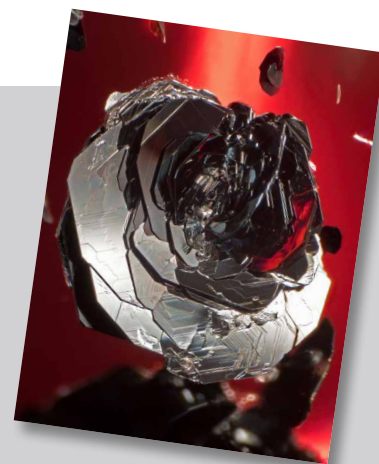


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FORTY YEARS OF TREASURES

Marcus McCallum's timeless journey through the world of gemstones.

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COVER PICTURE

Our cover image, featuring a hematite 'rose' within a Brazilian quartz, was the first-prize winner of the 2024 Photographer of the Year competition. See pp. 16–21 for more information. Photo by Liviano Soprani.

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Gems & Jewellery

Winter 2024 Edition Featured Contributors

1. NICOLE AHLINE

Nicole Ahline FGA completed her undergraduate studies in geology at Cornell College. She then enrolled at the Gemological Institute of America (GIA) for the Graduate Gemologist (GG) programme, followed by the Gem-A Gemmology Diploma programme. In 2016, she was hired to work in the gem identification department at GIA in Carlsbad, California, where she is now a senior staff gemmologist. While at GIA she has been a frequent contributor to gemmology journals and has given talks on numerous topics. Miss Ahline's current research interests include origin of colour in diamonds and geographic origin of corundum and emeralds.

2. GABRIEL KLEINBERG

An FGA and DGA with distinction, Gabriel Kleinberg is an experienced educator in the field of gemmology. Committed to passing on his knowledge and expertise, he is dedicated to shaping the next generation of gemmologists. A member of the Federation of European

Education in Gemmology, Mr Kleinberg teaches the Gem-A Diploma Level course, with a particular focus on practical testing. He also specialises in photomicrography, capturing detailed photographs of gemstones and their inclusions that have been featured in this publication, used in course materials and social media.

3. BRITNI LECROY

Britni LeCroy is a senior staff gemmologist at GIA in Carlsbad, California. She earned her bachelor's degree in geoscience from the University of Texas in Dallas before receiving her GG from GIA and her Gemmology Diploma from Gem-A. Ms LeCroy is a frequent contributor to *Gems and Gemology*. Her areas of interest include pearls, organic gem materials and historical gemmology.

4. SAFA NOOR MURAD

Safa Noor Murad qualified as a solicitor in England and Wales in 2017 following her training in London. She specialises in general commercial law, with previous expertise in advising charities and social

enterprises. A passionate jewellery and gemstone enthusiast, Ms Murad has actively participated in gemstone exhibitions as part of Sirius Gemstone Ltd.

5. MAGGIE CAMPBELL PEDERSEN

Maggie Campbell Pedersen FGA is a past president of Gem-A who joined the Association's board of trustees in November 2022. She is also an associate of the British Institute of Professional Photography. She is also the author of *Gem and Ornamental Materials of Organic Origin* (2004), *Ivory* (2015) and *Tortoiseshell* (2021). For sixteen years, she was an accredited lecturer for The Arts Society (formerly NADFAS). Her work includes identification, teaching, writing and research into all aspects of the subject of organics. Ms Campbell Pedersen has given lectures and seminars worldwide, including master classes in museums, and has appeared on television. She has worked in various places as a research assistant in animal conservation, studying elephants, turtles and other animals.



6. AMIN RIGI

A research associate at the University of Edinburgh specialising in biosensing and battery-free sensing systems, Amin Rigi's passion for gemstones was inspired by his mother, who collected stones from local markets. In 2014, he founded Sirius Gemstones Ltd, a company dedicated to sourcing fine gemstones from around the world. Initially inspired by the unique beauty of demantoid garnets and turquoise from Iran, the company has since grown to include a diverse range of exceptional gemstones. Mr Rigi also established Zeemek, a bespoke jewellery company that focuses on creating custom pieces using rare and unique stones. He works closely with small-scale miners in Tanzania, Kenya and other mining locations around the world, promoting sustainable practices that support miners and empower local communities. He sources rough stones such as rubies, sapphires, tourmaline and spinel, overseeing the entire process from sourcing and cutting gemstones to designing and crafting bespoke jewellery.

7. WIM VERTRIEST

A graduate of the Catholic University of Leuven in Belgium, Wim Vertriest FGA also earned a master's degree in geology specialising in geodynamics & geofluids in 2014. He has also earned his Gemmology Diploma and his GG from GIA. Since joining GIA's Bangkok laboratory in 2015, Mr Vertriest has participated in field expeditions on different continents; these trips have focused on ruby, sapphire and emerald mining areas. During these expeditions, samples are collected for GIA's research and the situation of the local community is documented. Mr Vertriest has authored, and co-authored, articles on new gemstone localities, updates on existing mining deposits, in-depth gemmological studies and treatment experiments. In his role as manager, Mr Vertriest oversees the Institute's field gemology department and is in charge of GIA's coloured stone research collection in Bangkok.

8. ALI IZADI YAZDANABADI

Ali Izadi Yazdanabadi holds a bachelor's degree in landscape architecture and a

master's degree in cognitive sciences with a focus on design and creativity. Since 2010, he has been actively involved in the exploration of metallic and non-metallic mines. He currently serves as the chief executive officer of Zarnab Ettehad Parsi, an industrial and mining company, and as the chairman of the board of Raha Teb Sadra Company. Both companies specialise in the identification, exploration and extraction of mines, including those producing iron, lead, zinc, copper, agate, turquoise, green garnet and quartz. Based in Kerman Province, Iran, Mr Yazdanabadi has developed a particular expertise in demantoid garnet from Bagh Borj. His work includes identifying potential green garnet-rich areas, as well as the exploration, extraction, classification and cutting of demantoid gemstones. Mr Yazdanabadi's extensive experience and specialised knowledge have made him a valuable contributor to the local garnet sector.

Special thanks to E. Billie Hughes, Nathan Renfro, Danny Sanchez, Liviano Soprani and Robert Weldon.



Gem-A News

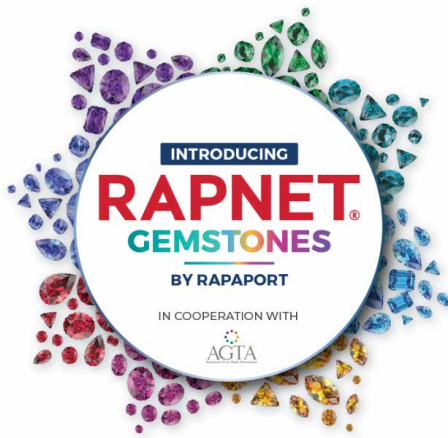
A round-up of the latest industry news from Gem-A

RAPAPORT AND AGTA PARTNER ON GEMSTONE TRADING NETWORK

RapNet, the largest online diamond trading platform, announced on 20 January 2025 that they will expand their reach into coloured gemstones. This move is made in partnership with the American Gem Trade Association (AGTA). The collaboration brings AGTA's ethical standards and arbitration procedures and RapNet's dedication to high industry standards and cutting-edge solutions to their clientele.

"We are thrilled to offer gem businesses the ability to connect and trade 24 hours a day," said Saville Stern, chief operating officer of RapNet. "Our platform empowers sellers to reach a vast audience of buyers, while buyers can effortlessly find the perfect gemstone at the right price, anytime, anywhere. The collaboration with AGTA has been instrumental in creating a platform that meets the needs of the modern gem trade, and we are confident this partnership will drive success for gem buyers and sellers across the industry."

The official launch for the Gemstone Trading Network will occur in February, at the AGTA Gem Fair in Tucson, Arizona.



QUEEN ELIZABETH SCHOLARSHIP TRUST OPEN FOR APPLICATIONS

The Queen Elizabeth Scholarship Trust (QEST) is now accepting applications to fund the education and training of craftspeople and associated workers. The deadline for applying is 10 February 2025.

The Emerging Maker Grant is for early-stage artisans, usually those people who have been practicing their craft for four years or less. Awards for essential-skills training in their field are offered in amounts ranging from £3,000 to £18,000. There are scholarships (£3,000 – £18,000) provided for mid-career to established artisans looking to enhance and improve their work. Additionally, in partnership with Cockpit Arts, each recipient will receive a place in a professional development programme. Grants up to £12,000 for apprenticeships are also available.

Any UK resident aged 18 or older practising professionally in the craft may apply for the QEST funds. Applications open twice a year; the next round opens in the summer of 2025.

Founded in 1990, to celebrate the 90th birthday of HM Queen Elizabeth, The Queen Mother, QEST is dedicated to sustaining the cultural heritage of Britain through the training and education of craftspeople through education, apprenticeships and direct training with a master craftsperson. HRH His Majesty The King is a patron, and the Marquess of Salisbury and the Earl of Snowden are vice-patrons. Since its creation QEST has granted almost £7 million towards the training and education of craftspeople. The not-for-profit organisation accepts donations and offers sponsorships in order to further their work.

Certain courses offered by Gem-A would be covered by the QEST. For more information, go to www.qest.org.uk.



SUPPORTING
EXCELLENCE
IN BRITISH
CRAFTSMANSHIP

CORPORATE MEMBERS

Our Corporate Members support Gem-A's goals and initiatives, sponsoring events such as our annual Conference. We would like to express our gratitude to the following organisations:

A. E. Ward & Son • Adam Lippitt Trading Organisation Ltd
AGGL • AIGS Thailand • Berganza Ltd • Birmingham Assay Office
Chenevix Jewellery • D. Barker & Son Ltd • E.W. Balasuriya &
Co. Pvt Ltd • F. Hinds Ltd • Fair Trade Gemstones Ltd • Fred J
Malcolm Ltd • The Gem and Jewelry Institute of Thailand (Public
Organization) Head Office • Gemmological Certification Services
Gemmological Science International Pvt Ltd • George Pragnell Ltd
Global Gem Testing Laboratory Sri Lanka • Hancocks London
Heidi Kjeldsen Ltd • Holt & Co. • Japan Germany Gemmological
Laboratory • Jewellery Validation Service Ltd • Joseph Lewin Ltd
(T/N Lewins Jewellers) • L & G Webb • MacIntyres of Edinburgh
McKenna & Co (Fine Jewels) Ltd • Marmalade Jewellers
Palmares Jewellery Ltd • Scarab Antiques • Shangri La Gems
Streeter & Co. • Studley Jewellers • Webb's Jewellers Ltd

DIAMONDS DO GOOD ADDS NEW BOARD MEMBERS

Not-for-profit Diamonds Do Good (DDG) has announced that Julia Hackman Chafé and Monica Elias have joined its board of directors.

A third-generation gemstone dealer and jewellery content creator whose social media profile, @JewelwithJules, Ms Chafé has a following of over 700,000 people. She has covered

topics ranging from the Iranian crown jewels to coverage of the jewellery worn to the Golden Globe Awards.

Ms Elias, who is the CEO of Elias World Media, is an established media and production leader specialises in brand journalism and television news. She brings two decades of experience in video and film production,

specialising in brand journalism and television news. In 2017, Ms Elias was named the Most Innovative Woman of the Year by Stevie's Women in Business Awards; she was also named one of the 25 Luxury Women Leaders to Watch in 2025 by Luxury Roundtable.

"We are thrilled to welcome Julia and Monica to our board of directors," said DDG president Kathy Corey. "Their expertise in connecting with consumers will amplify the value of natural diamonds and highlight their positive impact on communities worldwide. Together, we will inspire consumers to feel even better about their diamond purchases."

Diamonds Do Good was founded in 2007, in response to Nelson Mandela's encouragement to tell the positive story of natural diamonds. The not-for-profit organisation acts as an impartial third-party authenticator. They showcase the meaningful contributions of natural diamonds to the world while also giving back to members of diamond-producing communities.



Diamonds Do Good has added Julia Hackman Chafé (left) and Monica Elias (right) to their board of directors. Photos courtesy of Diamonds Do Good.

SOTHEBY'S TO HOLD THEIR FIRST AUCTION IN SAUDIA ARABIA

Sotheby's has announced that its inaugural auction in Saudi Arabia, Origins, will take place on 8 February in Diriyah. The first international auction in the history of the Kingdom of Saudi Arabia, the sale comprises 119 lots, including twenty-eight jewellery sales. Jewellery pieces in the auction include a pair of ruby, turquoise and diamond earclips from Harry Winston; a diamond-and-gold ring by David Webb; a Bulgari necklace composed of diamond, ruby, sapphire and emerald; and a Cartier diamond bracelet.

The auction follows Sotheby's official incorporation in Saudi Arabia at the end of 2024, and complements the opening of an office in Riyadh's Al Faisaliah Tower. All items from the inaugural Origins sale will be showcased in a public exhibition from 1–8 February.

Among the jewellery items available at Sotheby's first auction in Saudi Arabia is a gold ring from David Webb featuring a round diamond weighing 9.37 carats, surrounded by tapered baguette diamonds. Photo courtesy of Sotheby's.



ERRATUM

In the Autumn 2024 issue of G&J, the wrong biography was published on our Contributors page for Adrienne Sanogo. The correct biography is as follows:

Adrienne Sanogo is an award-winning and highly sought-after GIA Graduate Gemologist (GG) who has also earned her Graduate Pearl (GP) diploma. She serves as a co-founding Board Member and Education Chair for the Black in Jewelry Coalition. Ms Sanogo contributes informative articles to industry publications – including *Rapaport Magazine*, *Natural Diamond Council*, *The Jewelers Collective* and *National Jeweler* – offering unique insights and narratives about gems and jewellery. She has led master classes and workshops for esteemed organisations such as Tiffany & Co., the Academy of Natural Sciences, and the University of Pennsylvania Museum. As a force multiplier dedicated to enhancing the strengths and impact of those around her, Ms Sanogo is passionate about making a meaningful difference.

Gems&Jewellery regrets the error.

OBITUARIES

Henry Hänni FGA PhD (1945–2025)

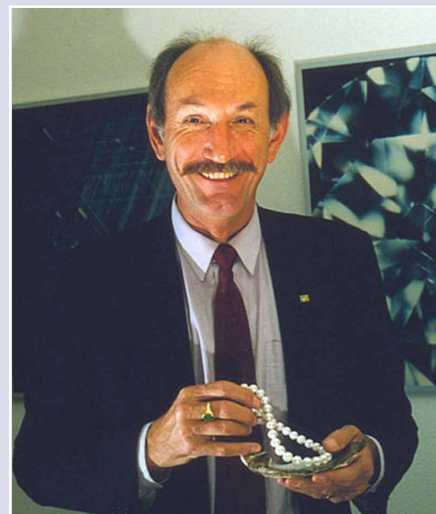
G&J is saddened to report the passing of Henry Hänni FGA PhD on 9 January 2025. Well known for his nineteen-year tenure as the director of the Swiss Gemmological Institute (SSEF) in Basel, Switzerland, he is also known for his extensive gemmological research. His trailblazing work significantly impacted the trade's understanding of coloured gemstones, pearls, analytical identification, treatment detection and origin determination.

Prof. Hänni began his career as a technical assistant in the workshop of the Mineralogical Institute at the University of Basel. This inspired him to study gemstones at the same institution. By the time he completed his doctoral studies in 1980 – with a PhD thesis on beryl from the Swiss Alps – he had earned his Gemmology Diploma from Gem-A. Also in 1980, he joined the scientific staff at SSEF; he became director of the organisation in 1990, a position he held until his retirement in 2009. In 1996, he joined the faculty of the University of Basel as a professor of gemmology. Among his many accomplishments, Prof. Hänni was involved in the

development of the CIBJO *Blue Book* series, and in particular the work done by the CIBJO Pearl Commission.

In 2024, SSEF announced an annual educational scholarship in gemmology in honour of Prof. Hänni. The scholarship, which was established 'to make gemmological education more accessible to students with a passion for the subject but with limited financial resources', allows the recipient to take a course at SSEF, while also covering travel costs.

"Henry had incredible curiosity and drive," noted Dr Laurent Cartier FGA, head of special initiatives at SSEF. "He strongly believed in education, gladly shared contacts and knowledge, and



could explain complex things in the simplest of terms – often with a good dose of dry humour. I have him to thank for sparking and nurturing my interest in gemmology and pearls. He was a wonderful mentor and friend."

G&J sends our deepest condolences to Prof. Hänni's community of family, colleagues, students and other loved ones.

Gillian O'Brien FGA DGA (1957–2025)

G&J notes the passing of gemmologist, goldsmith and valuer Gillian O'Brien FGA DGA on 5 January 2025. The tribute below is an excerpt from the memorial by Joanna Thomson FGA DGA, and published on SGA's website (www.scottishgemmology.org).

Anyone fortunate enough to meet Gillian found a kind and generous person with a warm tinkling laugh, a big welcoming smile and a great sense of fun. But Gillian was also a wife, mother and grandmother; an art college graduate; a talented jewellery designer and maker; a dedicated gemmologist and a Registered Valuer.

She was born in Edinburgh and attended the Edinburgh College of Art. She married her husband, David, in 1981. She is survived by him and their two daughters and three grandchildren.

Gillian started her shop, L'Argenette Jewellery, with fellow art college graduate Patricia Dudgeon, before going it alone a few years later. She undertook commissions and valuations throughout her working

life and will be missed by her many regular and happy customers.

She was a regular on the field trips organised by the Edinburgh Gemmological Group (EGG) and latterly the SGA. Gillian was also an attendee of the EGG meetings organised by Brian Jackson at the National Museum in Edinburgh. She put her Gemmology Diploma to good use by helping to prepare a paper on the museum's zircon collection.

When I was tasked with restarting the Scottish Branch of Gem-A, she was right there taking on the office of treasurer. She never missed SGA's annual conference. Indeed, she was instrumental in its transformation to a long weekend of gemmology sessions culminating with a field trip. Working



with the late Catriona McInnes FGA, they created one of the best and most enjoyable gemmological conferences in the world.

Gillian was a regular delegate to Gem-A's London-based annual Conferences and made a yearly pilgrimage to the Registered Valuers Conference (Jewellery Valuers Association) at Loughborough University. At these events she increased her already wide-ranging knowledge of gemstones, jewellery values and history, and also took the opportunity to raise a glass or two of Drambuie with fellow gemmologists.

Let's also raise a glass and celebrate Gillian's exceptionally well-lived life.

Joanna Thomson FGA DGA

Glenn Lehrer (1953–2024)

G&J acknowledges the passing of gemstone cutter, carver and designer Glenn Lehrer on 27 November 2024. World renowned for his innovations, Mr Lehrer won numerous awards for his designs over the course of his fifty-year career, including several American Gem Trade Association (AGTA) Spectrum and Cutting Edge lapidary awards. A previous contributor to G&J, his work was most recently featured in the Autumn 2024 issue (see pp. 6–7).

According to photographer Robert Weldon, “Glenn Lehrer’s passing was so sad, and much too soon. Though I had photographed some of his works of art decades ago, we only really bonded on a mutual trip to India to attend a conference and, since that trip, we were regularly in touch. Recently I understood he was in the battle of his life. As when he tackled his carvings, he was convinced he would triumph.”

Mr Lehrer was largely self-taught in lapidary and goldsmithery. He began his gem-carving and design career in the 1970s, influenced by a trip to India. He earned his Graduate Gemologist (GG) degree from the Gemological Institute of America (GIA) in 1979 and founded Lehrer Designs in 1981. He invented new gemstone cuts that demonstrated his passion for blending

art and science. These included the TorusRing, a patented, faceted gemstone designed to act as a setting for another specimen. “I kept dreaming about setting a gemstone inside of a gemstone,” he stated, and in 1997 this dream came to fruition.

A frequent collaborator with other jewellery artists, he created the 426-lb. rutilated quartz sculpture Bahia alongside Lawrence Stuller. Currently on display at GIA’s Carlsbad, California, campus, the Bahia has also been exhibited at the Carnegie Museum in Pittsburgh, Pennsylvania, and the Los Angeles Museum of Natural History. Additional cut gemstones, carvings and jewellery designs are found in museums and private collections around the world.

Mr Lehrer was a frequent guest on television channels QVC and Gemporia,

and was the author of *In Quest of the Indescribable: The Artistry and Life of a Gem Carver* (2016). Well known as



a lecturer and lapidary teacher, he also volunteered a great deal of time to the industry. He served on the board of directors of AGTA for ten years and also consulted with the International Colored Gemstone Association (ICA) on the update of their constitution, resulting in his honorary lifetime membership. Further, Mr Lehrer sat on the board of trustees for the UK-based not-for-profit Colourful Life Foundation. This group is committed to improving health and education initiatives, as well as environmental practices, in gemstone mining and cutting communities in the developing world.

Glenn Lehrer is survived by his wife of 45 years, Sharon. G&J sends our deepest condolences to Mr Lehrer’s family and community.

Craig Lynch (1954–2024)

G&J also announces the passing of Phoenix-based gemmologist Craig Allen Lynch on 23 November 2024. The official appraiser for the private collection *Somewhere in the Rainbow* since 2008, Mr Lynch was a popular speaker at trade shows on topics such as lead glass-filled rubies and jewellery and watches from the RMS Titanic – many of which he appraised after their recovery from the ship in 2002.

Mr Lynch made important contributions to the appraisal of historical and rare jewels. Among the items he is known to have evaluated is the 76.45 ct Archduke Joseph diamond, which sold for \$21 million (roughly £13.3 million in 2012 rates) at Christie’s Geneva. Over the years, he appraised items for institutions such as the Smithsonian Institution’s National Museum of Natural History (Washington, DC), the Los Angeles County Museum of Natural History and the Alfie Norville Gem and Mineral Museum in Tucson, Arizona.

The owner and operator of Ouellet and Lynch, an independent gem and jewelry appraisal firm, for over 35

years, Mr Lynch earned a GG from GIA. He also was an Accredited Senior Gemologist (Accredited Gemologists Association), a senior member of the



American Society of Appraisers and a certified insurance appraiser through the Jewelry Insurance Appraisal Institute. He was the author of *Is That Really A Ruby?* (2010) and a contributor to numerous published articles. He also appeared as the on-air gems and jewellery expert on over 45 episodes of the PBS show *Arizona Collectibles*.

“Craig was a man of thoughtful action, kind heart and deep love for his family and village of people,” said Shelly Sergent, curator of *Somewhere in the Rainbow*. “He was smart and witty, charming and loyal. Without Craig, the rainbow is less colourful. I miss him and I wish him peace. For 38 years, his friendship and teachings blessed my life. Even when we argued like siblings, he always stood for me.”

Craig Lynch is survived by his wife of 42 years, Donna, and their two children. He is also survived by his grandchildren, friends and colleagues. G&J offers Mr Lynch’s loved ones our sincere condolences.

Bringing Gems to the Table in Chanthaburi

Wim Vertriest FGA recounts the frenetic activity of Thailand's legendary gem market.

Although Chanthaburi is a small city in eastern Thailand, it is a serious centre for international gemstone trading. The weekend market in Chanthaburi has long acted as an outlet for local manufacturers and traders to show their goods.

While the importance of the street markets has decreased due to the rise of internet and increasing globalization, Chanthaburi remains a bustling hub. Gemstone buyers set up a table and display their wish lists. Brokers roam between those tables to see what is in demand, often zooming to backstreet offices and factories on their motorbikes to pick up more goods that are demanded by the customers in the street market.

Once the action starts, it often snowballs into a chaotic event. More brokers show up and the tables quickly fill with gemstones. Buying and selling in such an environment is hectic and requires everyone to keep a cool head, often literally: outdoor markets in sweltering Thailand often peak at noon when sunlight is at its most intense. Fresh water and a plate of tropical fruits may offer some relief.

The number of stones can be overwhelming, and the tools available for inspection are limited: a small scale, a loupe and a pair of tweezers are often all that is available to go through parcels. A deep understanding of stones and the wholesale market is needed to make sure that the snap decision made at the table is the right one.

The Chanthaburi market remains an exciting experience, but working there is not for the faint of heart! ■

Gem buyers and dealers gather at the Chanthaburi, Thailand gem market to agree upon a sale. Photo by Wim Vertriest.





The SCS-007 Certification Standard for Sustainability Rated Diamonds

Olga González FGA DGA reviews a robust certification that is helping to redefine responsible sourcing in the diamond industry.

The diamond industry, long associated with luxury and elegance, is undergoing a shift in response to evolving consumer values around ethics, transparency and environmental responsibility. As consumers increasingly prioritise brands that embody these principles – with millennials and Generation Z acting as the primary drivers of this movement – the fine jewellery market must adapt to meet these expectations. The SCS Certification Standard for

Sustainability Rated Diamonds was established by SCS Standards, a not-for-profit organisation committed to the advancement of the United Nations Sustainable Development Goals (SDGs). This groundbreaking certification has emerged to address consumer demands by offering a comprehensive sustainability framework for both lab-grown and mined diamonds. It has already shown its value within the synthetic sector and is wholly applicable to the natural diamond supply chain.

The SCS-007 certification standard is assessed by SCS Global Services, an independent third-party certifying body with a longstanding reputation for upholding sustainability criteria across diverse industries. The Sustainability Rated Diamonds Certification sets itself apart with its ability to cover the entire diamond supply chain (both natural and synthetic). It established requirements not just for environmental impact, but also for ethical sourcing, a net-zero carbon footprint and social responsibility. According to Kat Weymouth, director of diamond and jewellery services at SCS Global Services, “The Sustainability Rated



Top: The Suki lab-grown diamond open wedding band is crafted in 14K yellow gold. This unique band is adorned with 0.62 total carat weight of lab-grown SCS-007 Sustainability Rated Diamonds. Photo courtesy of Helzberg Diamonds.

Left: This digital certificate is issued to material that meets the SCS Sustainability Rated Diamonds Certification Standard. The virtual document includes information that confirms a natural or lab-grown diamond's characteristics, journey and impact. Photo courtesy of SCS Standards.

Diamond Certification offers retailers a robust way to assure consumers that their purchases align with their values of ethical sourcing and transparency. It's about creating a chain of trust from the origin to the jewellery case."

Any lab-grown diamonds that have achieved this certification – and any natural diamonds that would attain it – must adhere to five core pillars that ensure that the material has been sourced and/or produced in alignment with stringent ethical and environmental guidelines. These pillars offer consumers a level of transparency and assurance previously unparalleled in the diamond industry. "Before the Sustainability Rated Diamonds Certification Standard, existing frameworks only addressed individual parts of the diamond supply chain," Ms Weymouth explained. "However, none touched on the complete supply chain, nor included sustainability for the consumer. By addressing these facets collectively, SCS has created a robust certification that provides a complete view of a mined or synthetic diamond's journey and impact."

THE FIVE PILLARS OF THE CERTIFICATION

Verified Origin Traceability. Ensuring that each diamond's origin – whether a deposit or a laboratory – can be confirmed is a cornerstone of the Sustainability Rated Diamond Certification. SCS works with organisations specialising in origin determination, including Source Certain and the technology company iTraceiT. These collaborations provide a comprehensive approach to traceability, as material is physically evaluated to establish an origin 'fingerprint' or source signature. This level of verification is designed to provide "the highest possible source-to-market certainty never before achieved," according to SCS.

Ethical Stewardship. This pillar entails adherence to rigorous social and environmental standards across the supply chain, including compliance with international labour laws, fair wages and grievance mechanisms. Ms Weymouth points out that the certification goes beyond basic labour

"The SCS Sustainability Rated Diamonds Certification offers retailers a robust way to assure consumers that their purchases align with their values of ethical sourcing and transparency."

compliance. "The Sustainability Rated Diamond Certification Standard aligns with the strictest internationally recognised norms, covering human rights, fair wages, occupational health and safety and other key aspects of social responsibility."

Sustainable Production Practices.

A commitment to sustainable production is also mandatory. Natural and synthetic diamonds must be produced with minimal environmental impact, addressing at least fifteen categories of environmental health; these include freshwater consumption, non-renewable energy depletion and waste management. Each producer is expected to conduct an annual life cycle assessment (LCA) that tracks their environmental impact, creating a framework of accountability and encouraging improvements over time.

Net-Zero Carbon Footprint. Achieving a net-zero carbon footprint is an essential criterion for certification. To meet this requirement, companies must not only reduce emissions

through increased efficiency and renewable energy; they must also offset any remaining carbon footprint by investing in climate mitigation projects. Ms Weymouth explains that "companies must undertake efforts to determine and minimise their own carbon footprint," making carbon mitigation a critical benchmark in the SCS-007 certification.

Sustainability Investments.

The final pillar of the standard mandates that certified producers contribute to environmental or community projects, creating a positive impact beyond diamond production. These investments might include reforestation, community development or renewable energy initiatives. While clients must submit this information as part of the audit process and all provided information is kept confidential, clients can choose what to share with the public. Though they do not impact the scoring for individual specimens, these contributions underscore the producers' long-term commitment to sustainable growth.



In the creation of their marquise-cut solitaire stud earrings, Michael Hill used 0.60 total carat weight of laboratory-grown Certified Sustainability Rated Diamonds mounted in 10K yellow gold. Photo courtesy of Michael Hill.

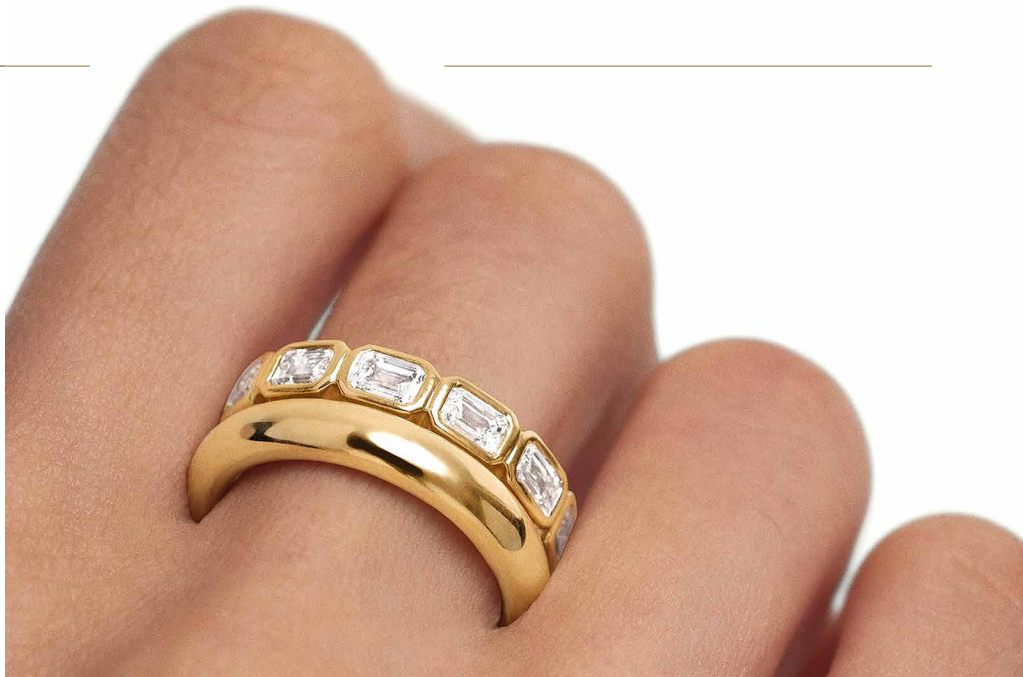
RAISING THE BAR FOR ACCOUNTABILITY

Companies must undergo an extensive auditing process, conducted by SCS Global Services, to ensure that each of the sustainability pillars are met and certification can be awarded. Ms Weymouth notes, "As part of our auditing process, we conduct an extensive review to ensure companies seeking certification operate their businesses with the highest degree of integrity." This includes measures such as anonymous grievance mechanisms, anti-corruption policies and public policies to address human rights issues.

Companies seeking certification must also implement training programmes for employees, ensuring they are equipped to manage ethical and environmental responsibilities. By establishing these structures, the SCS Sustainability Rated Diamonds Certification not only verifies current practices but also fosters a culture of continuous improvement within certified companies.

Aligning with a New Wave of Ethical Luxury. Consumer research indicates that younger generations are driving demand for ethical, transparent products. As Kat Weymouth observed, "Sustainability assurance with third-party certification promotes trust. And we know that trust drives consumer behaviour and, ultimately, purchasing decisions, particularly among younger generations."

For retailers, incorporating Certified Sustainability Rated Diamonds into



Mejuri created the Lab-Grown Diamond Emerald-Cut Bezel eternity band using lab-grown SCS-007 Sustainability Rated Diamonds and 14K yellow gold. The average weight range of each synthetic diamond ranges from 2.80–3.31 ct. Photo courtesy of Mejuri.

their collections can be a strategic move to appeal to this values-driven demographic. By introducing this material into their inventory, retailers can build trust and foster loyalty while positioning themselves as leaders in sustainable luxury. Additionally, the certification offers a distinct competitive advantage in a market increasingly defined by the ethics and environmental footprint of its products.

Marketing the Value of the SCS-007 Certification. Promoting the sustainable attributes of diamonds — whether natural or synthetic — requires a strong narrative and clear communication. The SCS Certified Sustainability Rated Diamonds ecolabel helps authorised retailers to convey

a diamond's sustainability attributes with clarity and strength. Every certified diamond comes with a unique digital certificate. The emblem is the programme logo, which is used by companies within the supply chain to show their involvement. The ecolabel is an internationally recognised mark of sustainability, used in stores and across online channels by retailers, that signifies high environmental and ethical performance. Highlighting attributes like traceability, net-zero carbon footprint and appropriate labour standards can help consumers understand the significance of the certification.

Storytelling, particularly through customer testimonials and brand-origin stories, can also deepen a retailer's connection with its audience. "The quest for traceability and transparency has become a pivotal theme in the luxury jewellery market," says Ms Weymouth. By weaving stories around the journey of a Certified Sustainability Rated Diamond, from creation to market, retailers can create an emotional connection that resonates with buyers.

Education is also essential. Retailers should train their staff to explain the sustainability pillars of the certification and the broader impact of sustainability in the diamond industry. In-store displays and digital content, such as blog posts and frequently asked questions (FAQs), can help demystify the certification, making the benefits more accessible to potential buyers.



These earrings from Mejuri's Dôme collection are composed of 14K yellow gold and 1.59 tcw of lab-grown Certified Sustainability Rated Diamonds in a cobblestone setting. Photo courtesy of Mejuri.

Ensuring Unbreakable Traceability.

A unique aspect of the certification is its integration of blockchain technology through partnerships with companies such as iTraceIT. Blockchain's immutable ledger system securely records each transaction and transfer of ownership, creating an unbroken chain of custody. This integration ensures that consumers have access to verified information about the journey and ethical credentials of the gem material in their jewellery.

"The fine jewellery industry stands at a critical juncture where the convergence of technology and consumer demand is driving unprecedented change," Ms Weymouth explained. By collaborating with organisations specialising in origin

By introducing SCS Certified Sustainability Rated Diamonds, retailers can build trust and foster loyalty while positioning themselves as leaders in sustainable luxury.

determination and advanced traceability, SCS offers a reliable and verifiable system for ethical assurance. This robust infrastructure makes it easier for retailers and designer brands to communicate transparency and authenticity to consumers, meeting the growing demand for responsible sourcing.

Building Consumer Trust and Long-Term Value. The SCS Sustainability Rated Diamonds Certification reinforces the commitment of SCS Global Services to responsible business practices, supporting initiatives such as the United

The Floret necklace by Michael Hill uses a floral-inspired design to showcase 0.65 tcw of synthetic diamonds that achieved SCS-007 certification. It is shown here set in 10K white gold. Photo courtesy of Michael Hill.

Nations Sustainable Development Goals (SDGs). "We are a participant of the United Nations Global Compact, joining thousands of other companies committed to taking responsible action to create the world we all want," Kat Weymouth noted. By participating in these initiatives, SCS reinforces the importance of human rights, labour standards, environmental responsibility and anti-corruption measures within the jewellery sector.

The certification's emphasis on fair labour practices and environmental responsibility aligns well with emerging global standards. With the diamond industry facing increased scrutiny over issues like supply-chain transparency and carbon emissions impacts, the SCS-007 certification offers an essential framework for companies looking to meet these challenges.

SCS-007 AND THE FUTURE OF THE DIAMOND INDUSTRY

As more companies pursue Sustainability Rated Diamonds Certification, the certification programme could reshape the entire diamond supply chain. By setting a high bar for transparency, environmental responsibility and labour practices, the certification is a significant step toward a more ethical and sustainable future for the diamond industry. The demand for traceable, sustainably sourced diamonds is expected to continue growing, driven by the same consumers who are reshaping industries around the world with their expectations for responsible products.

For retailers and brands, the SCS-007 certification represents a unique opportunity to embrace a transformative vision. By incorporating these certified lab-grown diamonds into their offerings, designers and jewellery store owners not only respond to today's consumer values but also contribute to the advancement of an industry rooted in transparency, accountability and sustainability.

The SCS-007 Sustainability Rated Diamonds Certification Standard marks a pivotal shift for the diamond industry, creating a precedent for transparency, ethics and environmental responsibility. By embracing these certified synthetic diamonds, retailers are strengthening their appeal to a clientele that demands ethical choices and a global move towards transparency. ■

The Vela cuff bracelet by Laurenti New York (shown here in rhodium-plated 14K white gold) uses 41 synthetic diamonds (weighing a total 0.96 carats) that conform with the SCS Sustainability Rated Diamond Certification standard. Photo courtesy of Laurenti New York.



Liviano Soprani, our first-prize winner, captured a black hematite 'rose' inside a 31.15 ct cabochon of hyaline quartz from Bahia State, Brazil. This picture was obtained from a stacking of 25 shots taken at 40× magnification (field of view 3.50) in darkfield illumination. A red filter and oblique fibre-optic light were also used to compose the photo. Photo by Liviano Soprani.

Revealing the Winners of the **PHOTOGRAPHER OF THE YEAR COMPETITION**

An inside look into the photomicrographs that captured our imaginations in 2024.

The last few months of 2024 may have ushered out the year, but also guided in one of the most exciting features in *Gems&Jewellery*: the annual Photographer of the Year competition. The contest allows photographers from around the world to submit their best gemmology-related work from the previous twelve months while also allowing members of our social media audience to vote on their favourite image.

This year, we asked entrants to send us their best photomicrographs so that our readers could explore the internal world that developed within

each gemstone during its formation. As always, the contest was open to any member of the public with an interest in both gemmology and photography. Based on the numerous photographs we received – nearly one hundred! – the topic captured the attention of a great number of people.

Once the November deadline passed, the entries were reviewed, and a ten-photo longlist was posted to Facebook (@GemAofGB) for a public vote. As in previous years, to progress onto the next stage of the competition – a 'shortlist' of five entries for our guest judges to assess – photographs had

to earn the 'Likes' of our Facebook audience. By casting thousands of votes cast and enthusiastically sharing our gallery over times, our Facebook followers produced a shortlist of five stunning photos that were then turned over to our guest judges.

This year, we had a team of three judges, all of whom are world-renowned photomicrographers, assess the five photos for the final stage of the contest. E. Billie Hughes FGA, Nathan Renfro and Danny Sanchez worked together to take the shortlist of five to a first-prize winner and two runners-up. We are grateful for their contributions to the competition.

THE WINNER

We are proud to announce that the first-prize winner is Liviano Soprani. His image, of a black hematite 'rose' inside a 31.15 ct cabochon of hyaline quartz from the state of Bahia, Brazil, appears on the cover of this issue. This picture was obtained from a stacking of 25 shots taken at 40× magnification (field of view 3.50 mm). The image was captured in darkfield illumination with the addition of a red filter to increase contrast and create a warmer atmosphere, Oblique fibre-optic light was used to highlight the patterns of each tabular crystal forming the rose. The photo was captured using a Leica S8APO microscope on a HRD D-Scope base with a Nikon Z6 full-frame mirrorless camera.

In explaining how the judges came to choose Mr Soprani's photomicrograph as the first-place winner, Billie Hughes said that "This image is all about contrast. There's a play between the red background and the steely greys of the hematite. We also see the central crystal's sharpness against the blurred background crystals, giving a sense of depth. Then, there's the use of light, with brightness focused on the crystal in the centre while crystals in the background are allowed to remain darker. All of these elements come together to create a striking photo that catches our attention."

Liviano Soprani is a graduate of IGI Antwerp and an Accredited Senior Gemologist (Accredited Gemologist Association). After obtaining his first gemmological diploma as a gemmologist and precious stone cutter in 1996, he opened a laboratory for gemmological analysis, appraisal and stone cutting in Ravenna, Italy. Mr Soprani believes that photomicrography is one of the most powerful means of communication for understanding gemmological concepts. Through these images, it is easier to identify treatments and origin of gems. He holds photography courses and seminars using the skills acquired over the past fifteen years.

He told G&J, "I would really like to express all my gratitude to those who appreciated and voted for my work, especially the judges who made the final decision. The five shortlist photos were

"The five shortlist photos were really beautiful, and choosing the winner must not have been an easy task."

really beautiful, and choosing the winner must not have been an easy task."

As the winner of this year's competition, Mr Soprani will be gifted a £300 voucher to spend at Gem-A Instruments, along with one year's free Membership of Gem-A.

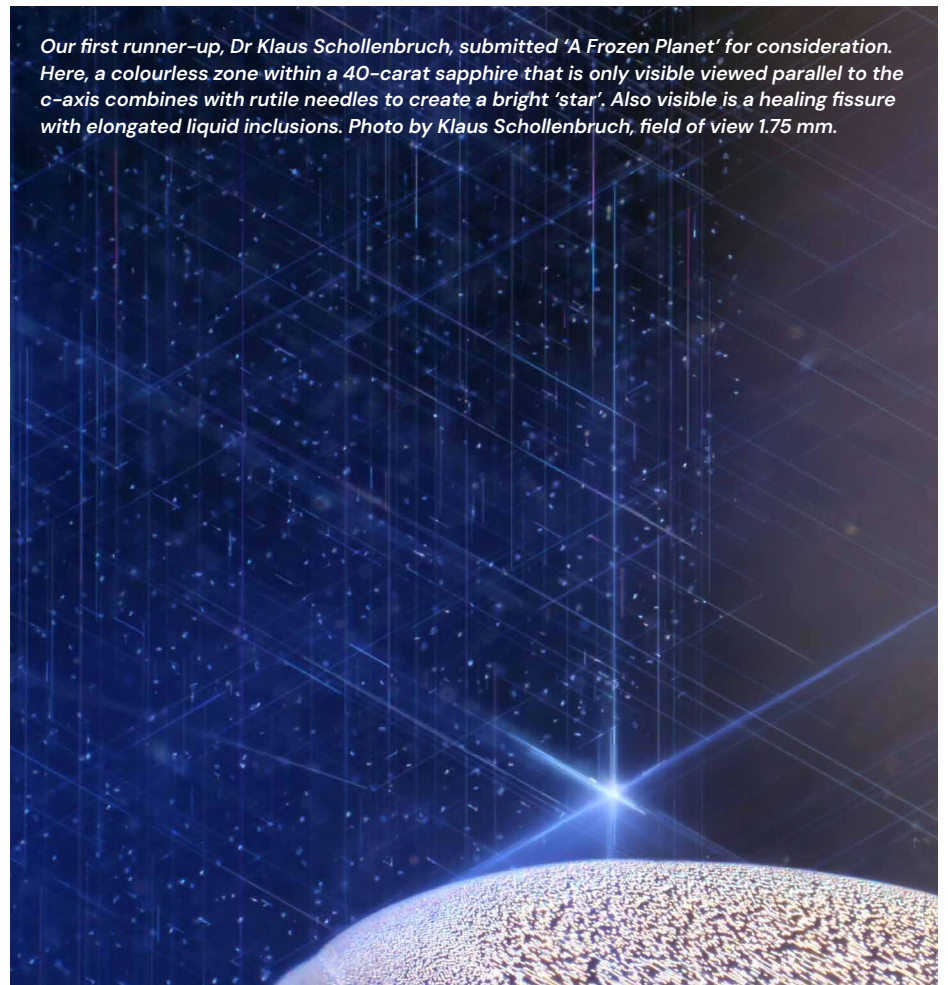
RUNNERS-UP

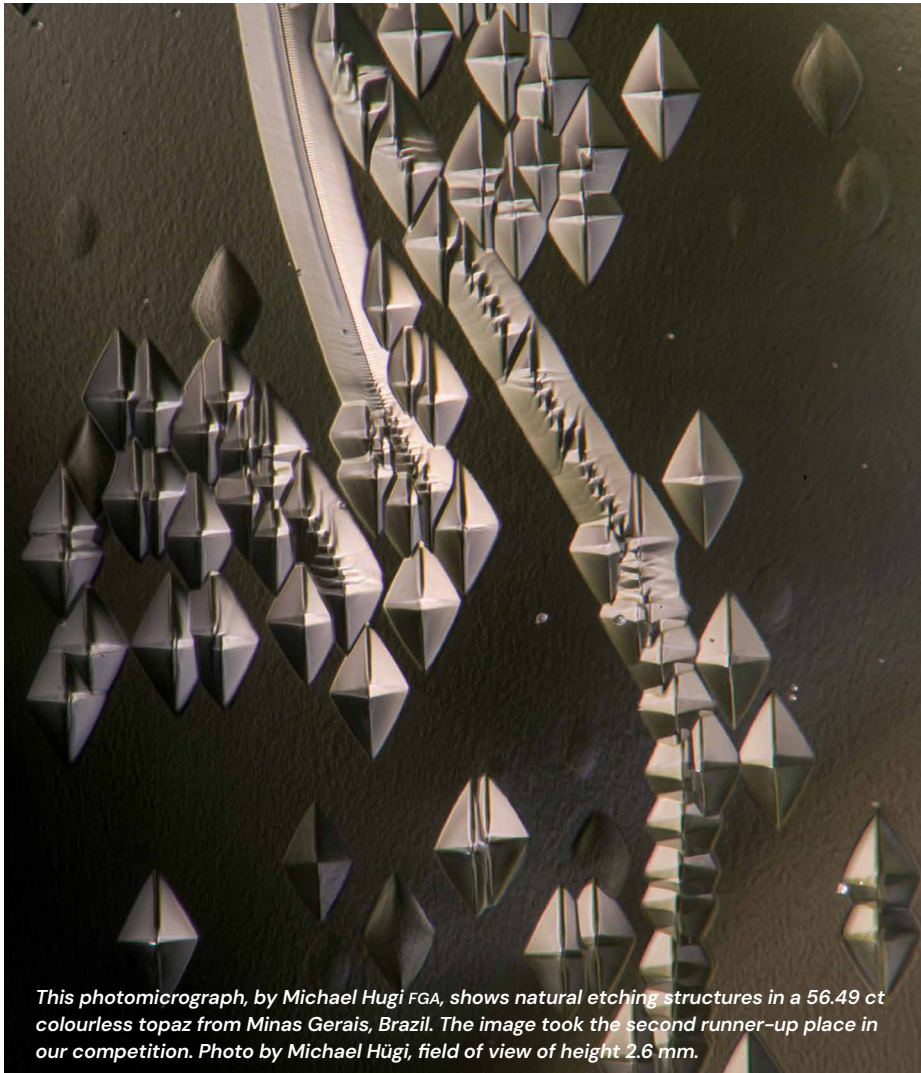
Dr Klaus Schollenbruch is our first runner-up for his photomicrograph of a 40-carat sapphire from Sri Lanka, entitled 'A Frozen Planet' (field of view 1.75 mm). Within the stone is a tiny colourless zone that is only visible when viewed parallel to the c-axis. When combined with the rutile needles, the resulting visual resembles a

bright star. Next to the 'star' is a healing fissure with elongated liquid inclusions. The picture was taken with a Leica S8APO and a Canon EOS 6D in darkfield illumination; the field of view is 1.75 mm.

When considering this photo, Danny Sanchez noted that "One doesn't need to be a gemmologist to appreciate the intent behind this image. The photographer has expertly captured the delicate scene of rutile in blue sapphire, demonstrating the techniques required for an informative gemmological photomicrograph, while simultaneously igniting the imagination. The novelty of how the scene is composed has made the familiar feel fresh and new. This is an absolutely stellar shot."

Our first runner-up, Dr Klaus Schollenbruch, submitted 'A Frozen Planet' for consideration. Here, a colourless zone within a 40-carat sapphire that is only visible viewed parallel to the c-axis combines with rutile needles to create a bright 'star'. Also visible is a healing fissure with elongated liquid inclusions. Photo by Klaus Schollenbruch, field of view 1.75 mm.





This photomicrograph, by Michael Hügi FGA, shows natural etching structures in a 56.49 ct colourless topaz from Minas Gerais, Brazil. The image took the second runner-up place in our competition. Photo by Michael Hügi, field of view of height 2.6 mm.

Dr Schollenbruch is a senior gemmologist at the Gübelin Gem Lab in Lucerne, Switzerland. He is involved in the daily production of gemmological reports with a focus on inclusion photography and field trips to mining locations. He studied geology at the University of Tübingen, Germany and earned his PhD at Goethe University in Frankfurt. Dr Schollenbruch has diplomas from both the German Gemmological Association and

A large rhombohedral calcite crystal with schiller effect in an emerald from Swat, Pakistan. This perfectly formed rhombohedral calcite seems to have crashed in the emerald, creating a wave of darker residues around it after its impact. Underneath, the schiller effect is seen as multicolour due to film interference with fluids in fissures. The photo was taken with a Digital Microscope Keyence VHX-7000 at Bellerophon Gemlab. The mineral inclusions have been identified with Thunder Optics Micro-Raman. Photo by Theodore Rozet, field of view 1.981 mm.

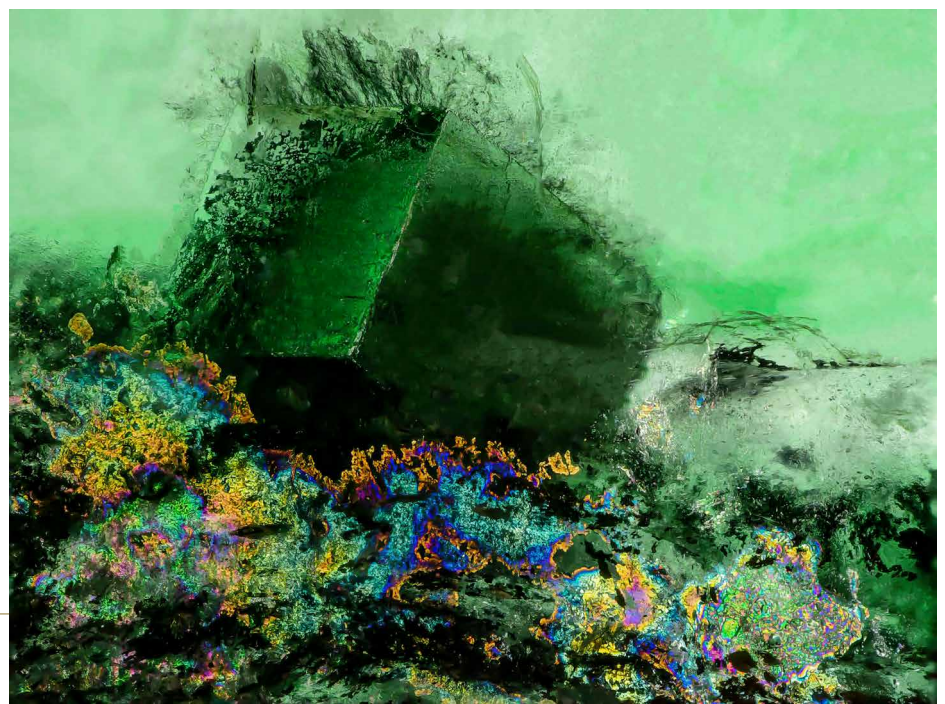
the Federation of European Education in Gemmology.

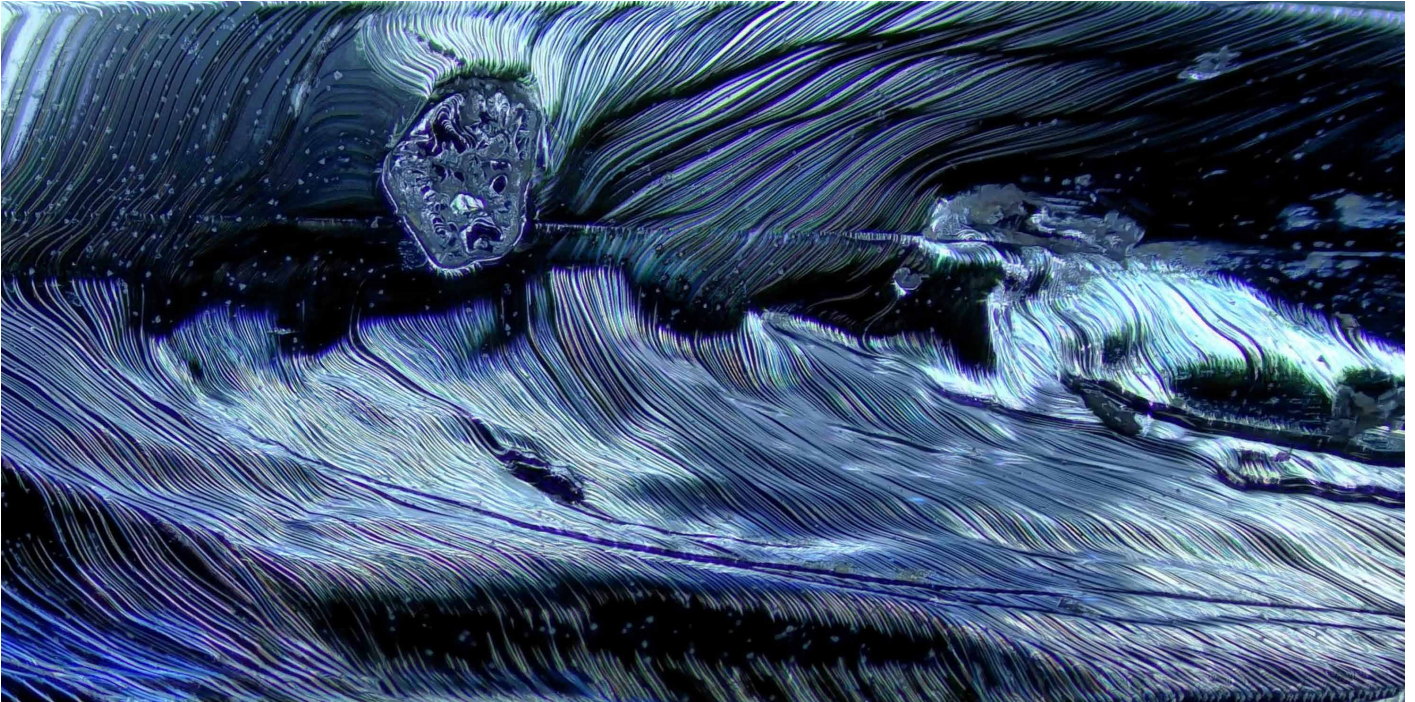
Upon learning that he took the first runner-up in the competition, Dr Schollenbruch told us, "This is fantastic news! I feel very honoured,

"The novelty of how the scene is composed has made the familiar feel fresh and new."

especially as this is my first time entering the competition. All the images on the longlist were really good and deserved a prize. I followed the public vote on the internet, and I was delighted to see so many positive comments on all the pictures. As a gemmologist, it is important to me to share the inner beauty of gemstones with a wider audience."

Our second runner-up, Michael Hügi FGA, captured a cluster of natural etching structures in a cleavage crack in a 56.49 ct faceted colourless topaz from Minas Gerais, Brazil (field of view of height: 2.6 mm). The etch pits are an epigenetic formation and their shape reflects the orthorhombic crystal structure of the host mineral. To create the image, he used fibre-optic illumination with a single polarising filter (to eliminate blurring due to dynamic range). The photo was taken using a Leica MZ 16 stereomicroscope and a Canon EOS R5 camera.





In 'Silver Fields Mysteries', what may be curved etch marks appear on the surface of a specular hematite crystal of unknown locality. This image was created with a monocular microscope (conceived by Valentin Fejoz) and a 4K camera, along with an overhead LEDs ring light and focus stacking. Photo by Colin Fonteyn, field of view 7.05 mm.

"The surfaces of gem minerals are often forgotten or ignored, especially once gems are cut and polished," noted Nathan Renfro. "It is always striking to me to see the regular repeating pattern of etch features, which can tell us a lot about the crystal structure of a gem mineral. This topaz is no exception, with its beautiful, crystallographically oriented rhomboid-shaped etch features that are pristinely preserved internally in a cleavage crack, revealing the host topaz's crystal structure."

Michael Hügi FGA is the director of the Swiss Gemmological Society (SGG) in Bern, Switzerland. He has also worked at the Swiss Federal Office for the Environment FOEN since 1999 as a scientific expert in the field of

circular economy and sustainability, and was appointed Deputy Head of Section in 2012. Mr Hügi is also vice president of the board of the Museum of Natural History Bern and a member of the Board of Trustees of Landshut Castle near Bern. He specialises in photomicrography, environmental geology, pegmatites and alpine gemstone deposits.

When informed about his placement in the competition, Mr Hügi told G&J that "In view of the outstanding pictures of the competitors, I didn't expect it be second runner-up. I am happy and grateful for this unexpected success; it will be an incentive for further activities in the field of photomicrography!"

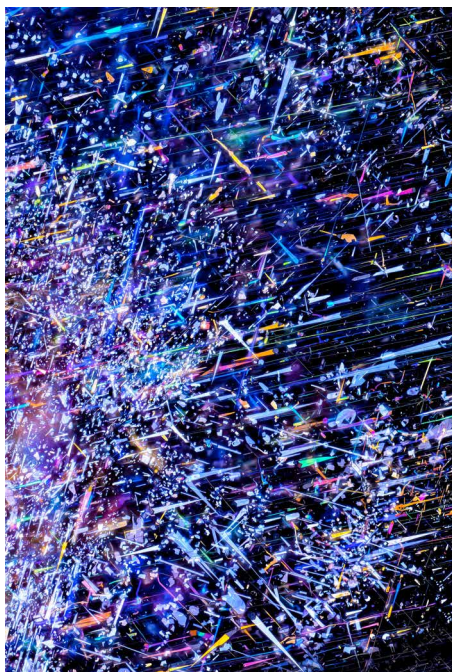
"I acquired the topaz at the last Tucson Showcase. The stone was anything but attractive as a gemstone, but when I looked at it with a loupe, I immediately noticed these strange inclusions. Under the microscope, the aesthetics of these inclusions was revealed, which are probably the result of dissolution in a crack in the crystal. This is exactly what fascinates me about photomicrography of inclusions in gemstones: discovering and visualising the hidden beauty of gemstones." ■

As runners-up, Dr Schollenbruch and Mr Hügi will each receive a £50 voucher to Gem-A Instruments, for use in purchasing gemmological equipment, tools and books. →

THE LONGLIST (see left, above and overleaf for images)

The Longlist is still live on social media, but here's a recap of the remaining seven images that were posted for public voting. We thank everyone who entered for their contributions.

- Keith Chow: Mica, Oriented Parallel to the Basal Pinacoid, with Interference Colour in a Zambian Emerald
- Valentin Fejoz: Rutile Needles in a Burmese Sapphire
- Colin Fonteyn: Silver Fields Mysteries
- Randall Lightfoot: Fluorescence Sectoring Accompanied by a Magnetic Metallic Flux Inclusion in a Lab-Grown Diamond
- Jacob Martin: Quartz Crystals in Colombian Emerald
- Theodore Rozet: Calcite in an Emerald from Swat, Pakistan
- Rosie Young: Copper Films in a Fracture in Oregon Sunstone



This photo shows an untreated Sri Lankan sapphire, with an association of rutile inclusions of various sizes as well as small plates. These inclusions are not diagnostic, as this type of inclusion scenario can also occur in stones from other geographic origins. Photo by Valentin Fejoz, field of view 2.80 mm.



This photo shows two quartz crystal inclusions that have broken the exterior surface of a Colombian emerald. A filler that fluoresces blue under long-wave UV (LWUV) light was used to enhance the clarity of the stone and flowed in around the quartz structure. The result is a photo that vividly displays the contours of the quartz inclusions in a blue fluorescence when LWUV light is shone onto the emerald. Photo by Jacob Martin, field of view 1.99 mm.



Copper films in a fracture in Oregon sunstone. Photo by Rosie Young, field of view 6.00 mm.

THE GUEST JUDGES

E. Billie Hughes FGA

E. Billie Hughes visited her first gem mine (in Thailand) at two years old; by age four, had visited three major sapphire localities in Montana. A 2011 graduate of UCLA, she qualified as a Fellow of the Gemmological Association of Great Britain (FGA) in 2013. She is a co-founder of Lotus Gemology, a gemmological laboratory in Bangkok, Thailand. As a photographer and photomicrographer, Ms Hughes has won prizes in the Nikon Small World and Gem-A competitions, among others. One of the focuses of her research has been low-temperature heat treatment of corundum, for which the Accredited Gemologists Association (AGA) awarded her their Gemological Research Grant in 2019. Ms Hughes is a sought-after lecturer and has travelled the world speaking to groups including Cartier and Van Cleef & Arpels.



Nathan Renfro



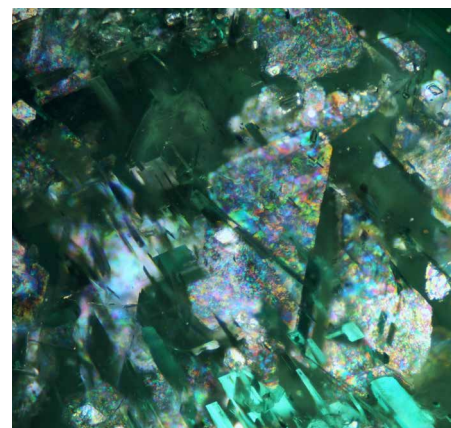
Nathan Renfro is the senior manager of the coloured stone department at Gemological Institute of America (GIA) in Carlsbad, California. There, he specialises in photomicrography of inclusions in gems as well as geographic origin determination. Mr Renfro's images have been featured by *National Geographic*, Zeiss, Olympus and Nikon. He is also the editor of the Microworld section published in *Gems & Gemology*, GIA's quarterly peer-reviewed journal.

Danny J. Sanchez

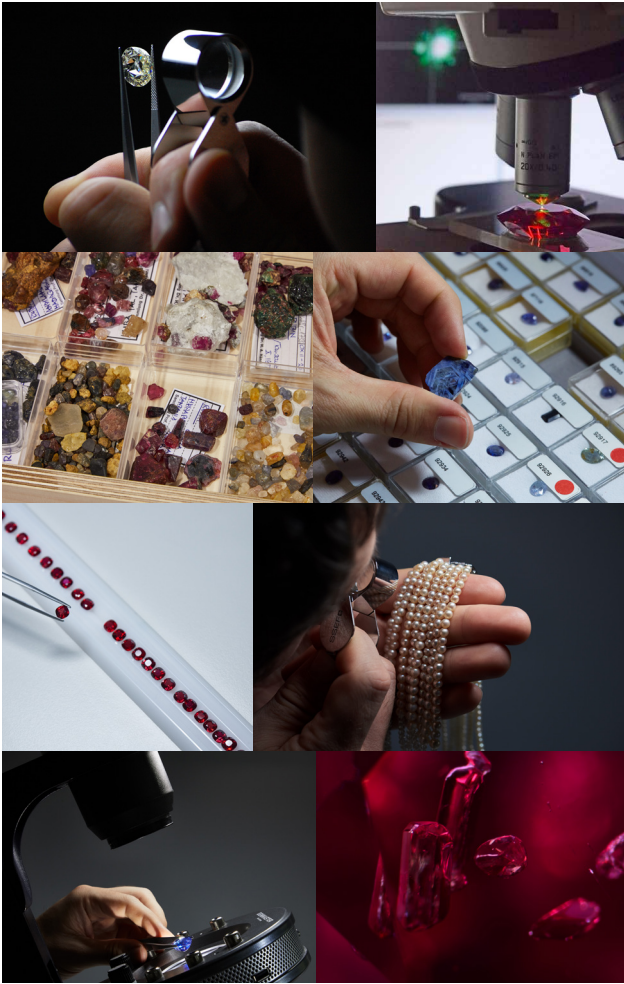
Danny J. Sanchez is a Los Angeles-based gemologist and artist specialising in photomicrography. A graduate of the Gemological Institute of America, he combines his gemmological expertise with self-taught photography skills to create his one-of-a-kind photomicrographs. His work has earned Mr Sanchez partnerships with Cartier as well as several international photography awards. His work has been showcased at Art Basel Miami and featured in publications such as *Wired*, *Vice*, *New Scientist* and *Smithsonian Magazine*.



Telltale fluorescence sectoring accompanied by a magnetic metallic flux inclusion in an high-pressure, high-temperature lab-grown diamond. The specimen was photographed in 365 nm UV illumination. Photo by Randy Lightfoot, field of view is approximately 5.00 mm.



Mica, oriented parallel to the basal pinacoid, with interference colour in a Zambian emerald. Photo by Keith Chow, field of view 3.50 mm of stacked pictures.



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CONFERENCE 2024

Members, Students and gem aficionados attended Gem-A's annual Conference to hear eleven speakers from seven countries.

Gem-A's annual Conference was held on 2–3 November 2024, returning to the pre-pandemic two-day format. Over the course of the weekend, eleven presenters from seven countries spoke to approximately 200 attendees on topics ranging from the historical to the sustainable.

The Conference opened with Gem-A president **Richard Drucker FGA** giving a summary of the Conference. Following this introduction, **Dr Michael Bycroft** (University of Warwick) examined the historical origins of gemmology and what he referred to as 'the paradox of evaluating the science of gems objectively.' **Wim Vertriest FGA** (Gemological Institute of America, Bangkok) discussed ruby mining in Mozambique, which has emerged as a major source of production since the discovery of the Niassa Reserve deposits in 2008. Mr Vertriest also provided insight into the characteristics of, and treatments used on, these rubies. He was followed by **Carina Hanser FGA DGA MSc** (Johannes Gutenberg University and the Institute of Gemstone Research), who reviewed the characteristics of emerald from Chitral, Pakistan, which show characteristics that are consistent with schist-hosted material. She also looked at challenges to mining in the area, which is far from the so-called 'emerald belt' of Pakistan.

Also on Saturday, **Jim Clanin** (JC Mining) looked back on his fifty-year career in the mining industry, including experiences in Kenya, Afghanistan and the United States. At the time of the conference his work was focused on spinel production in Mahenge, Tanzania. **Dr Michael Krzemnicki FGA** (Swiss Gemmological Institute) presented on the age dating of gemstones and materials. While radiocarbon dating can provide historic origin for ivory, pearls and

corals, the dating of surface-reaching inclusions (mainly zircon) via the U-Pb method can in many cases help with the dating of materials such as corundum and spinel. Finally, Richard Drucker considered the diamond market. While prices were in decline for both natural and lab-grown material, he predicted that mined diamonds would, over the course of several years, regain its popularity and increase in price. A post-presentation cocktail reception allowed guests to network.

The second day was kicked off by **Michael Hügi FGA** (Swiss Gemmological



Gem-A president and presenter Richard Drucker FGA addresses the Conference attendees. Photo by Henry Mesa, courtesy of Gem-A.

Institute), who spoke on the history and geology of giant quartz crystals and pink fluorite from the Swiss Alps. Known since the medieval period, the largest deposit in the area is the Planggenstock fissure, which has been mined for the past three decades. **Dr Boris Chauvire** (GeoGems and Nantes University) covered opal formation and characteristics. He described the factors that must be present to account for play-of-colour and

provided insight into the localities that produce gem-grade opal. **Richa Goyal Sikri** (Singapore) recounted the process of interviewing and researching her book, *No Stone Unturned: The Hunt for African Gems* (2024). The twenty-four tales that comprise the book include narratives on sourcing tsavorite in Kenya with Campbell Bridges, Namibian tourmaline and demantoid garnets with Chris Johnson and tourmaline and aquamarine in Madagascar with Eckhard Petsch.

Brecken Branstrator (Gemworld International Inc.) outlined the demand for and differences between emerald fillers. She explored the regional preferences for different types of fillers while reviewing the way these products are identified by various gemmological laboratories. Finally, Richard Drucker closed the second day with a review of the coloured gemstone trade for 2024. He indicated that, as in the previous two years, the market maintained high prices for a lower supply, with blue sapphire maintaining its popularity. Other gem materials that were popular in 2024 included apatite, sphene and sunstone. The market continued to be negatively affected by global conflicts and economic issues.

Post-Conference workshops were held on Monday, 4 November at Gem-A's London headquarters. Topics included an investigation into jade and its imitations with **Pat Daly FGA DGA** (Gem-A), differentiating between stones with similar appearances with **Charles Bexfield FGA DGA** (Gem-A), photomicrography and the study of inclusions with **Sammantha Maclachlan FGA DGA** (Glasgow, Scotland) and coloured-gemstone grading and pricing with Richard Drucker FGA. Field trips to the gem and mineral collection of the Natural History Museum and the jewellery collection of the Victoria and Albert Museum were also held on 4 November. ■

Gem-A Hails Graduates During Ceremony at Goldsmiths' Hall

Students from around the world gathered at the annual Graduation Ceremony to celebrate their Diplomas with Alumni, Members and Staff.

Monday, 4 November saw Members from around the world gathering at Goldsmiths for Gem-A's annual Graduation Ceremony. In total, 440 Gemmology and Diamond Students celebrated the end of their coursework and the issuance of their Diplomas.

Robin Hansen FGA DGA, of the Natural History Museum, gave an inspiring keynote speech at the ceremony, **Dominic Mok FGA DGA**, from the Asian Gemmological Institute & Laboratory Ltd in Hong Kong, also addressed the graduates as our Diamond Practical Prize sponsor. Ms Hansen and Dr Mok also presented prizes and special awards to the 2024 recipients.

Gems&Jewellery extends its congratulations to all the new graduates of the Gemmology and Diamond programmes; we also congratulate those Students who have successfully completed their Foundation coursework. We look forward to celebrating with current Students in future years. ■



A group shot from Gem-A's 2024 Graduation Ceremony. Photo by Tempest Photography, courtesy of Gem-A.

Forty Years of Treasures: Marcus McCallum's Timeless Journey Through the World of Gemstones

Gabriel Kleinberg FGA DGA EG spoke to the renowned gemstone dealer (and FGA) on his forty years in the trade.

As I step into Marcus McCallum Ltd., tucked away in the heart of Hatton Garden, I am immediately transported into an Edwardian-style parlour room. The displays are a carefully chosen collection of mineral specimens and gemstones. Their rich colours and delicate forms add a subtle beauty to the room.

Marcus McCallum FGA, the founder of this distinguished gemstone business, did not follow the typical path to success. With no formal academic background, his journey began with a passion for rocks and minerals, along with a relentless thirst for knowledge. Forty years later, he has become a leading authority in the gemstone world, known for his expert eye and a collection of rare, exquisite stones. His story is one of resilience, adventure and a deep understanding of an ever-evolving industry. A true treasure hunter, Marcus' expertise has made him a respected figure whose impact on the industry is undeniable.

THE SPARK THAT IGNITED A GEMSTONE CAREER

In an industry where passion often meets precision, Marcus McCallum's entry into the world of gemstones was anything but conventional. As a young man, he had romanticised the idea of becoming a field geologist, with dreams of roaming wild landscapes with a rock hammer in hand, uncovering nature's secrets. "I didn't do desperately well in my A-Levels, so I didn't get into university to do the geology degree I



Gem dealer Marcus McCallum FGA at the Hatton Garden location of his eponymous business.

thought I might pursue," he explained. "But that was fine, because it led me to the door where it all began."

That door, opened by a family connection to a silversmith, led Marcus to a London company specialising in unusual stones and mineral specimens. It was here, at age 18, that Marcus's fascination with gemstones deepened and he found his true calling.

The Power of Education: Why FGA Knowledge Matters

Marcus enrolled in the prestigious Gemmology Diploma course at Gem-A in 1980, a decision that would shape his career and provide him with the knowledge and confidence to navigate the complex world of gemstones. He believes the education he received through the Association has been one

"We are treasure seekers. You never know what you are going to find, and that's what keeps me going. Every day in the gemstone business is a new adventure."



Over the past forty years, Marcus McCallum has amassed a diverse and delightful collection of gems. The back row shows (from left) a Tahitian pearl, a green tourmaline, a baroque freshwater cultured pearl, a Paraiba tourmaline, a nucleated freshwater cultured pearl, a pink tourmaline and a South Sea pearl. The middle row features an aquamarine, a spessartine garnet, a blue sapphire, a grey tourmaline, a green tourmaline, an orange topaz and a blue sapphire. The front row includes a pink spinel pair, a blue/purple sapphire, a grey spinel pair and a ruby.

of the key factors in his success, noting that "having the FGA knowledge in your noggin proves invaluable." The ability to accurately assess the authenticity and value of stones, especially in the fast-paced and sometimes unpredictable world of gemstone markets, is essential.

With this knowledge, Marcus was able to make informed decisions when buying gemstones, even when working with limited resources. "If you're cruising around antique markets or fairs, and you don't have the right instruments with you, you've got to rely on your knowledge and instincts. That's where the FGA really helped."

His gemmological expertise also proved crucial in his travels to countries such as Brazil, Zambia, Sri Lanka and India. Marcus advised that "having that knowledge is completely paramount when you're dealing with suppliers in remote places. It also gives you credibility with your customers. That is why I encourage as many people as possible to study gemmology."

**The Thrill of the Hunt:
A Passion for Sourcing and Buying**

For Marcus, the most exhilarating part of the gemstone business is the thrill of the chase when buying stones. "You never know what's going to come through the door next." This unpredictability keeps him motivated, especially when travelling abroad to find gems in exotic locations. "Buying abroad is the cream on the cake," Marcus stated. "You get to meet the

cutters and dealers directly, and it doesn't get much better than that."

When asked about the most fascinating stone he has ever encountered, Marcus's eyes lit up, and he eagerly delved into the details of the experience. He fondly recalled discovering a star peridot at Myanmar's Yangon gemstone market, a moment that left a lasting impression. "I didn't even know star peridot existed until that moment," he said when reflecting on the awe of the find. The 30-carat gem stood out with its stunning, clean colour and flawless

asterism. Although Marcus was not able to purchase the stone at the time, it remains a standout memory from his travels and a reminder of the rare and unexpected wonders the gemstone world has to offer.

While rare stones like the star peridot – and the trip where he encountered it – are unforgettable, Marcus no longer needs to travel as much to source new, exciting gems. As his reputation grew, dealers from around the world began bringing stones to him, and now he enjoys access to some of the finest gemstones available.



The team at Marcus McCallum Ltd. From left: Alistair McCallum FGA, Bindy McCallum, Floriane Van Den Brande FGA DGA, Marcus McCallum FGA and Lois Amelia Roberts.

**Milestones and Challenges:
A Journey of Growth.**

Looking back over his forty-year career, Marcus identified several pivotal moments. He has travelled to some of the most interesting and varied locations in the world. "Brazil is one of the most challenging for a non-Portuguese speaker," he recalled of his early visits to the country. "In India and Sri Lanka, you can usually get by with English, but in Brazil, hardly anyone speaks it. I had to pick up Portuguese just to navigate the markets."

His first commercial trip to Jaipur, India, was one of his most significant journeys, marking a turning point in his career. "That trip was a huge milestone because it gave me the confidence to buy abroad and navigate international markets... After that, doing trips to exotic places didn't seem quite so scary."

As his business grew, so did his ability to source and stock gemstones. "In the early years, I had to rely on borrowing stock to get started," Marcus explains. "But gradually, with profits, I was able to build my own inventory and trade without relying on credit. That was a huge shift for me."

LOOKING AHEAD: THE FUTURE OF THE GEMSTONE BUSINESS

One of the unique aspects of the gemstone business is the trust that defines it. "In this trade, you can hand over a £20,000 stone or receive one on a handshake. It's all based on mutual respect and trust." This rare level of trust allows gem dealers to operate with an integrity that is becoming harder to find in other industries.



Alistair McCallum examines freshly produced gems in Madagascar. With his uncle's support, he is collaborating with Malagasy communities to extract gems in ways that directly benefit those who mine the gems.

While technology has changed the way gems are bought and sold, he believes the essence of the business will remain the same. The beauty of this trade, he observed, is that "it's very personal." There is something about sitting across the table looking someone in the eye and negotiating face-to-face that cannot be replaced by technology. However, Marcus acknowledged that the rise of online platforms and direct access to producers is changing the way business is done. "The world is becoming smaller and smaller. The internet makes contact easier, but it also means that gemstone dealers like

me are facing more competition. Unless you have specialised knowledge or are prepared to travel, it's getting harder to find good deals."

Marcus's taste in gemstones has evolved over the years, with sapphire once reigning as his favourite. "It has everything you want in a gemstone, with great fire and incredible sparkle, but it's soft, and the colours aren't always the most pleasing." For quite a while now, spinels have held a meaningful place in his heart. "They're pretty special to me," he remarked, noting his spinel ring and the red spinel engagement ring he gifted to his wife, Bindy. Among the other gems within Marcus's private collection, there is a striking 50-carat greenish-blue zircon, which started out as a vivid blue and has changed colour over the years. But perhaps the most remarkable specimen is a bicolour yellow-and-blue sapphire, with asterism that is visible only in the blue section. Marcus considered how his collection enhances his appreciation for the unique allure of gemstones, stating that "It's not just about the value to me; for me, each stone tells a story."

Reflections and Regret.

When asked is there anything you regret or would do differently, Marcus reflects



Over the years, spinel — such as the 3.58 ct oval-cut red Burmese gemstone on the left and the 14.02 ct oval-cut specimen on the right — has come to hold a special place in Marcus McCallum's heart.

“Having the FGA knowledge in your noggin proves invaluable.”

on his journey with resilience and acceptance. believes that every mistake has been a lesson learnt, shaping him into the person he is today. “You learn by your mistakes,” he says, emphasising the value of experience over perfection. “Would I have come to this level of success quicker if I had done certain things differently? Maybe I would. It was incredibly stressful at times, and it cost me on a personal level, which was

a shame. But what I wound up with was even better than I anticipated. So no, I wouldn't change anything.”

Treasure Seekers: The Allure of the Gemstone Trade.

Despite the difficulties he faced, Marcus looks back on his career with pride and without regret, as “even the difficult moments had humorous aspects.” One of his more unforgettable experiences

in the gemstone trade took place during a buying trip in Zambia, where he encountered guerrilla fighters from the South West Africa People's Organization (SWAPO). “I had to tell them that the supposed diamond crystals they were showing me were actually just quartz. It was a tense moment, but it turned into a fascinating encounter. I have met extraordinary people. That is one of the things I love about this trade, every day brings something new.”

For Marcus, the thrill of discovery has always been the driving force of his passion. “We are treasure seekers. You never know what you are going to find, and that's what keeps me going. Every day in the gemstone business is a new adventure.”

FINAL THOUGHTS AND ADVICE FOR ASPIRING GEMSTONE DEALERS

After four decades in the gemstone industry, Marcus has learned invaluable lessons. His advice for anyone looking to enter the business today is simple: “Study your gemmology. Learn everything you can, because knowledge is power in this business.” He also cautions against greed and warns aspiring dealers to trust their instincts. “If something seems too good to be true, it probably is.”

As for his own future, Marcus remains as enthusiastic as ever about his involvement in the gem trade. He is especially excited about his new project involving a gemstone mine in Madagascar, led by his nephew, Alistair (for more on Alistair McCallum FGA, see pp. 30–31). “It's Alistair's [project], but I'm here to offer advice and enjoy it vicariously through him.” The joint venture with local Malagasy communities has proven to be more rewarding than he could have imagined. “We are benefitting hundreds of people, and that's the real reward. This is the culmination of everything I set out to do when I was eighteen, collaborating directly with local people and getting gems straight from the earth. It's as close as I'll get to my dream of being out in the field with a rock hammer.”

And with that, Marcus McCallum's story continues. His career is a testament to the timeless fascination of gemstones and the unyielding spirit of a treasure seeker. ■



Marcus McCallum examines specimens at a gem market in Mogok, Myanmar (Burma).

The Impact of Gem-A Membership

Graduates of our Diploma programmes consider how their Gem-A educations and affiliations have led to fulfilment of their professional goals.

While Gem-A is known for its top-notch curriculum and excellent publications, it is also known for its active and thriving membership. Opportunities to connect and network are fostered through activities at regional branches (see p. 33), events at trade shows, workshops and, of course, the annual Conference.

Gems&Jewellery has reached out to Members who have graduated from their respective programmes over the past fifteen years. Over the next few pages, these Alumni have shared, in their own words, how their Gem-A affiliation has helped in their own education and professional development. We appreciate the time each person took to share their stories, and hope our readers enjoy reading these perspectives as much as we enjoyed working with our Members.

NICOLE AHLINE FGA GIA GG

Gemmology Diploma: 2020
Gemmological Institute of America
Carlsbad, California, USA

As a geology undergraduate who received my Graduate Gemologist (GG) degree from the Gemmological Institute of America (GIA), continuing my education with the Gem-A curriculum simply made the most sense for my career goals. After I finished the Foundation course, I enrolled in the Gemmology Diploma programme, which I successfully completed in 2020.



As a staff gemmologist at a gemmological laboratory, where I analyse diamonds and coloured gemstones, having the education that I have received is essential. I am required to use my degrees on a daily basis. My training, including the time I spent studying with Gem-A, has provided me with a solid foundation for my understanding of both the observational and scientific side of gemmology. The tutelage I received from the Association was a significant addition to my knowledge base. The way the Foundation and Diploma courses are set up, to build on one another at a steady pace, permitted me to grasp all the information without being overwhelmed with the amount of work. I have kept the reading resources readily available in case I need to reference the material.

While I may be done with my coursework, being involved in the gem trade requires one to be a lifelong learner. With Gem-A membership comes access to *Gems&Jewellery* and *The Journal of Gemmology*. These quarterly publications are known for their articles on every aspect of the industry, which allows me to keep up with the ever-changing world of gemmology. Gem-A also makes appearances at many global events,

including trade shows, which allow for networking opportunities. The yearly Conference giving their members the chance to learn from experts in the field while meeting up and chatting with like-minded individuals.

If one is looking to advance their gemmological studies, I would recommend Gem-A, as graduates will continue to receive an education from the Association long after they receive their Diplomas.

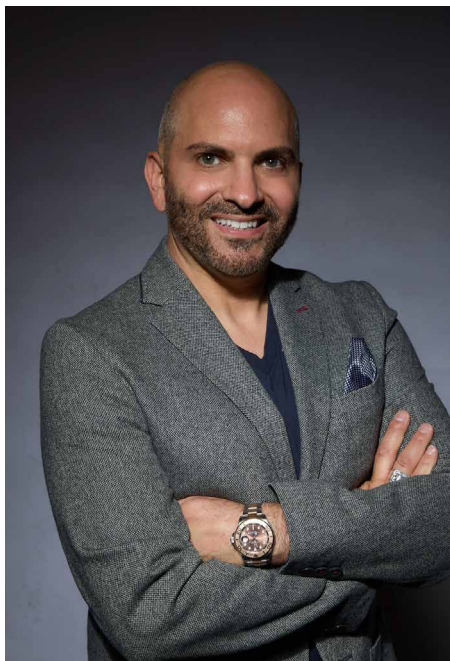
YOSEF CALDARON FGA DGA, GIA GG

Gemmology Diploma: 2020
Diamond Diploma: 2021

Josef C., New York City, New York, USA
The story of my career begins circa 1985, when I was an elementary school student on a field trip to the American Museum of Natural History in New York City. Upon entering what was then the Morgan Memorial Hall of Gems and the Harry Frank Guggenheim Hall of Minerals, I became utterly fascinated by coloured gemstones. They just seemed magical to my childhood self, and even today I feel that same sense of magic when I lay my eyes on a special gemstone. I didn't originally pursue a career in gemmology but finally, in the late 2000s, I decided to follow my true passion. I made a sudden and drastic career change from real estate into jewellery. I started my journey by working for Tiffany & Co. in New York City. After a brief stint as a diamond grader at GIA's laboratory in Ramat Gan, Israel, I moved back to New York City and focused on building my own business.

At present, I run my own jewellery advisory and diamond company in Manhattan's Diamond District. Concurrently, I serve as director of fine jewellery for Winston Art Group, the leading independent appraiser of personal property in the United

States. As a gemmologist appraiser working with extremely important and high-value collections, Gem-A's Diploma in Gemmology has afforded me added credibility in the industry, as well as a deeper understanding of gemstones from a more scientific and crystallographic perspective. I obtained the Diploma in Gemmology in 2021; I subsequently earned the Diploma in Diamonds in 2023.



Of my qualifications, I am most proud of the FGA and DGA post-nominals, which I intentionally place directly after my name in first position before any of my other credentials. The distinction of the FGA and DGA – in addition to the Graduate Gemologist diploma and other degrees I completed with GIA, coupled with my status as New York's sole Certified Master Appraiser of the National Association of Jewelry Appraisers – has solidified my credentials at the highest level.

I am a big believer in the Gem-A curriculum, educational programmes and teaching methods; I also know that the staff and facilitators are fantastic. The deeper level of knowledge that I gained through studying with Gem-A has helped me incredibly in my work. This is true not only from a practical perspective while working with jewellery and gemstones, but also due to the added

“Gem-A's Diploma has afforded me added credibility in the industry, as well as a deeper understanding of gemstones from a more scientific and crystallographic perspective.”

trust that it has inspired, particularly in my work with extremely important, high-value collections. Internationally, but particularly in the U.S. market, people have a tremendous amount of respect for the FGA credential. Industry professionals understand how thorough the Gem-A programmes are, and I have received many lovely compliments from my colleagues upon learning that I earned the Gemmology Diploma. What I learned from these programmes enables me to communicate technical concepts to my clients with great fluidity and ease. This, coupled with the added credibility the Gem-A credentials bestow, have helped me to advance my career to new heights and to grow my relatively young business to a level that I couldn't have imagined.

NAOMI HOWARD FGA, GIA DG AJP

*Gemmology Diploma: 2013
eBay Luxury, Toronto, Canada*

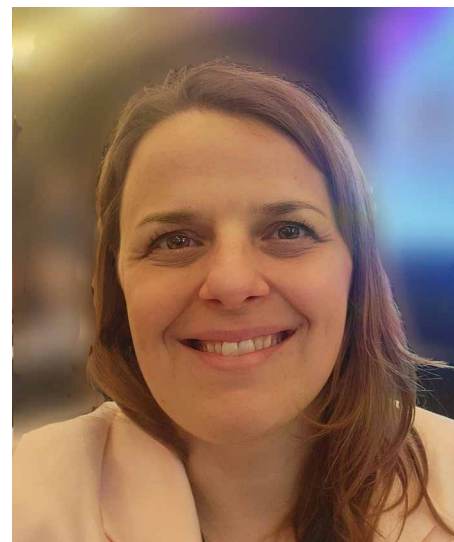
When I look back, I can see that my passion for gems and jewellery was already present in my early years, but it seems to have primarily lingered in the back of my mind. My mum had, and still has, a profound love for jewellery of all kinds. My grandfather had a passion for silver mustard pots and hallmarks, which he bought in local auction houses in the UK. I tagged along willingly, marvelling at the beauty of all these shiny objects.

My passion was built upon as the years went by. Even so, I ended up in a completely different career in communications and corporate affairs until 2011 when, while working for a large luxury company, I saw my dream job in a job posting. I decided had to do what it takes to become a gemmologist and diamond expert.

I started with diamonds; in 2012, I quit my job altogether and dedicated myself to the wonders of gemstones and gemmology. I wanted a course that had the right balance in technical and science teachings, while also being fun and comprehensive. I found that right away with the globally recognised Gem-A Diploma course. It really offered me a strong foundation and in-depth knowledge in all things gemstone.

Earning the right to call myself an FGA gave me the needed confidence to start working in an industry that required passion, knowledge and dedication. My career has since led me to work in a variety of positions, from the World Diamond Bourse in Antwerp to jewellery quality control and gemstones-and-diamonds expert for an online auction house. For the past couple of years I have been managing the Luxury Jewelry Category and leading the Authentication programme for jewellery at eBay.

The Gem-A course has directly supported my achievements in the industry. It has provided an amazing foundation that has continuously



been built upon throughout my career. I highly recommend to anyone who is looking into setting a foot into this wonderful world, to take a closer look into the Gem-A courses and join a wonderful community of gem aficionados!

BAOMING LI FGA DGA

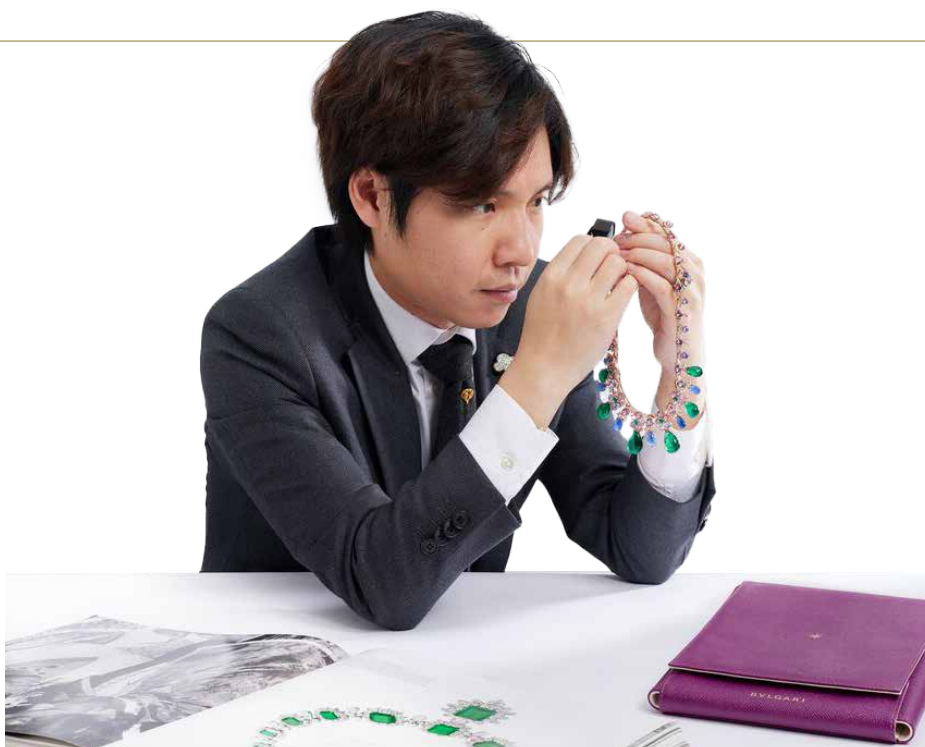
Gemmology Diploma: 2018

Diamond Diploma: 2021

Christie's, Paris France

Life is a journey with lots of sparkling surprises. Born in mainland China, I moved to France to continue my master's degree in foreign languages and political sciences. I did not plan to work in the jewellery industry at all.

In Paris, one of the most exciting cities in the world, I've had the chance to touch the jewellery world by being involved with the several French classical jewellery houses and with the world of art. Later on, I was advised to study gemmology with Gem-A. I started this journey in 2016, at the same time as a job with Mrs Fabienne Thouvenot at Ecole des Gemmes, an ATC of Gem-A in the Paris region. A whole year's hard work led me to be eligible for the FGA post-nominals, thanks to my success on the Diploma exam. However, the most surprising part of this experience was to encounter different classmates



Diploma via Gem-A's distance-learning program. Four months of theoretical studies with online tutoring, plus one week of diamond-grading practice at Gem-A London HQ was a perfect combination for me. I passed the Diamonds exam, and earned the right to use the DGA credential, in 2021. I was very lucky to be able to join that year's graduation ceremony, where there were important occasions during which to meet different people from the industry.

In 2022, I joined the jewellery department of Christie's, the prestigious international auction house, as an

associate specialist. This experience allowed me to have the chance to see and value extraordinary jewellery pieces with impressive gemstones. Among many of the capacities acquired during these years, I would say one of the foundations is my studies with Gem-A. My gemmological learning experience with Gem-A has enriched my working life, by supporting my expertise and skills, and providing me with confidence

in my ability to identify of gemstones in different jewellery pieces. Jewellery and gemstones have become one of the most important parts of my life. I feel lucky to have studied with Gem-A and look forward to future amazing moments.

ALISTAIR MCCALLUM FGA

Gemmology Diploma: 2020

Marcus McCallum Ltd,

London, United Kingdom

A decade ago, if someone had told me I would be working as a gemmologist in Hatton Garden and mining sapphires in Madagascar, I'd have been bewildered. Today, gemmology holds a central role in my life. Gem-A was – and as a newly appointed trustee, continues to be – instrumental in this development.

My early career had very little to do with jewellery or gemstones. I graduated as a musician but transitioned through a variety of fields, including sales, hospitality, construction and landscaping. This culminated in an extended period of traveling. Friends often remark that I've lived many lives! These experiences have given me a broad appreciation of diverse perspectives, which now serve me well.

Eventually, I decided to return to the UK and build a meaningful career in my home country. Exactly what that career would be, however, I struggled to figure out. I tried starting small businesses and worked in some unfulfilling jobs.

“Earning the right to call myself an FGA gave me the needed confidence to start working in an industry that required passion, knowledge and dedication.”

and make new friends thanks to this 'back to school' life, because we share the same passion about gemstones.

In 2017, I started as a jewellery intern with a Parisian auction house. Two years later, I was hired by another local auction house to build up the jewellery department. Within those three years of intense professional experience, I found myself eager for academic learning. I chose to complete my Diamonds

associate specialist. This experience allowed me to have the chance to see and value extraordinary jewellery pieces with impressive gemstones. Among many of the capacities acquired during these years, I would say one of the foundations is my studies with Gem-A. My gemmological learning experience with Gem-A has enriched my working life, by supporting my expertise and skills, and providing me with confidence

One day, I got a call from my uncle, Marcus McCallum, a well-known gemstone dealer in Hatton Garden. He was exhibiting at the International Jewellery London (IJL) show and needed help. Well sure, why not?

That experience sparked a tentative interest in the gemstone industry. In my free time I started spending time at my uncle's office, soaking up whatever knowledge I could. Witnessing the level of expertise he wielded in his work and the value his FGA had provided throughout his career, it felt natural for me to develop my budding interest by taking Gem-A's Foundation course. The first time I viewed iridescent silk in a sapphire under the microscope, I was hooked. I became captivated by the heady mix of science, art and travel. It wasn't long before I was swept up into the world of gemmology, earning my own FGA qualification and a position at Marcus McCallum Ltd as a gemmologist.

This newfound passion was perhaps frustrating for those around me who didn't share my enthusiasm. Like any new romance, it was hard to think about anything else. I often found myself bringing gems to social events, much to the torment of my friends!

The skills I learned at Gem-A have been, without a doubt, invaluable to my progression as a gemmologist. However, just as valuable are the people I've met and the community I'm now a part of. Many of these connections will be lifelong friendships. I consider my graduation to have been my ticket into this community, which has become a source of inspiration and a foundation for my ongoing education. Gemmology is a field that is constantly evolving, and staying up to date is essential for any professional. Being a member of Gem-A has been a fantastic way to do this; the publications and the annual Conference have been of particular value to me.

One project I've been working on, one that I find especially meaningful, is a mining and development initiative in Madagascar. Through my expertise as a gemmologist, I had the opportunity to start a sapphire mine in southern Madagascar. A unique set of circumstances allowed a team to come together and bring cut gemstones from this region, known for its economic challenges, directly to the UK. At the same time, we are supporting meaningful community development projects and small businesses in

Madagascar. It has been, and continues to be, a challenging but deeply rewarding experience. The training I received at Gem-A has been instrumental. It would not be an overstatement to say that this project would have been impossible without both the knowledge I gained through the qualification and the recognition it provides.

Gemmology offers practitioners the opportunity to engage in the lifelong study of a fascinating subject, one that weaves together science, art and discovery. As I continue to build on the legacy of my uncle and contribute to the gemmological community, I hope my journey inspires others to pursue their passions, embrace lifelong learning and uncover the incredible opportunities within this field.

RAVINDI WALISINGHE FGA

*Gemmology Diploma: 2022
Tiffany & Co., New York City,
New York, USA*

Growing up in Sri Lanka, I didn't come from a privileged background. My family has a rich heritage rooted in coloured-stone mining, with four generations of experience working at the grassroots level of the gemstone supply chain. My ancestors didn't trade gemstones; instead, they worked in the very earth itself, extracting raw stones that would eventually find their way into the global marketplace. From a young age, I developed a deep affinity for gemstones and minerals, a love that was nurtured by my family's profession.

Despite our modest means, I would often daydream about walking into a Tiffany & Co. store, imagining myself as a part of the brand's legacy. Tiffany's timeless elegance and the quality of its gemstones captivated my imagination. I knew then that I wanted to work with gemstones, but I couldn't yet fathom that one day I would be part of the very brand I admired.

I was fortunate enough to land a job at Tiffany & Co in New York City, and it felt like a dream come true. The role provided me with the opportunity to work with some of the finest gemstones in the world. My family's legacy in the gemstone industry gave me an innate understanding of these precious materials, but I knew that I needed



formal education and credentials to truly thrive in my new environment.

This is where Gem-A entered my life. While I was working as a quality assurance (QA) specialist, Tiffany & Co. recognised my potential and supported my ambition by reimbursing my tuition for the Gemmology Diploma programme. Completing the coursework and earning my Diploma was more than just a professional milestone for me; it was a way to formalise and expand upon the knowledge I had inherited from my family's work. The programme, which I completed with distinction, provided me with the technical expertise, gemmological skills and industry knowledge that I needed to advance in my career.

The FGA qualification was instrumental in helping me take the next step in my career. Shortly after earning my certification, I applied for a position with Tiffany & Co. in High Jewelry Gem Acquisition — an opportunity that felt

like a dream job for any gemmologist. This role gave me the chance to source diamonds and gemstones for some of the most exquisite pieces Tiffany has ever created. I was part of the team responsible for selecting the stones for the Blue Celeste collection, a collection that would later be showcased on the red carpets of prestigious events such as the Golden Globes and the Oscars.

The first time I saw a piece from that collection on the red carpet, I was filled with an overwhelming sense of pride and accomplishment. These pieces, crafted from the finest stones I had sourced, were not just pieces of jewellery—they were a testament to the skill, artistry and dedication of the people behind them, including myself. It was a career-defining moment, and it is a feeling that will stay with me for the rest of my life. The knowledge and credentials I gained from the Gemmology programme played a crucial role in making that moment possible.

“My FGA has been more than just a credential; it has been a key that unlocked countless opportunities for me in the gemstone industry.”

The impact of my FGA credential didn't stop there; rather, they laid the foundation for further professional growth. Since that pivotal moment, I have continued to rise within Tiffany & Co. and now serve as the manager of servicing support for Tiffany's 150+ US-based retail stores. This role is incredibly rewarding, as I get to work with a talented team that ensures every customer receives the highest level of service and care. My journey from a QA specialist to this managerial position has been one of continuous learning, growth and achievement.

Looking back, I can confidently say that without the FGA qualification, I would not be where I am today. My Diploma provided me with the specialised knowledge, credibility and recognition I needed to climb the ranks within Tiffany & Co. It allowed me to transition from a job I was passionate about to a career I am truly proud of. My FGA has been more than just a credential; it has been a key that unlocked countless opportunities for me in the gemstone industry.

Today, as I look back on my career, I am filled with gratitude for the path I have taken. From my roots in Sri Lanka to my current work, I have been able to blend my family heritage with the expertise I gained through the Gem-A programme. The FGA has been instrumental in shaping my journey, helping me move from daydreams of Tiffany stores to a meaningful and rewarding career that continues to grow and evolve. ■



Gem-A Regional Branches Are Open and Active!

Maggie Campbell Pedersen FGA informs *G&J* readers about the regional volunteer-run divisions of the Association that are available to UK-based Members.

It became apparent at our Conference in November 2024 that many people do not realise that Gem-A has regional branches, in which all Members are automatically entitled to take part. Gem-A's headquarters are in London, but the branches act as hubs, offering easier access to Association resources to Members living further afield. They are all run by volunteers, and they all welcome help. After all, the more attendees they have, the more active they can be. While some branches hold their meetings regularly at the same venue, others move around. A small charge is usually made for attending the meetings, to cover the venue hire and possibly a visiting lecturer's fee. Contact the people listed below for information and to sign up. All branches would be delighted to welcome new Members.

The oldest and largest hub is the Midlands Branch, founded in 1952 and based in Birmingham. With its close proximity to the Jewellery Quarter and Birmingham City University, it is also the most active of the branches and holds monthly meeting and regular Conferences. The next Gem-A Midlands Branch Conference is on 22–23 February 2025.

The remaining branches also hold meetings, though less frequently. All were, of course, badly hit by the COVID-19 pandemic and had to cease activities. The North East and North West Branches have restarted, and the South West Branch is scheduled to resume in 2025. The South East region remains inactive (parties interested in restarting

the branch can reach out to Gem-A Headquarters). Nowadays there is a tendency to rely on the internet for information, but nothing can equal the hands-on and face-to-face opportunities offered by meeting with a group of like-minded people – many of them experts in their field and with years of experience – who are all willing and keen to share their knowledge and compare ideas. Branch activities are, of course, ideal for gemmology students, but gem enthusiasts with no prior knowledge are also very welcome.

Find out what is happening in your local branch and give it a go! ■



Gem-A

The Gemmological Association of Great Britain

THE NORTH EAST BRANCH is based in the Leeds/York area. Contact Mark Houghton at markhoughton1@hotmail.co.uk

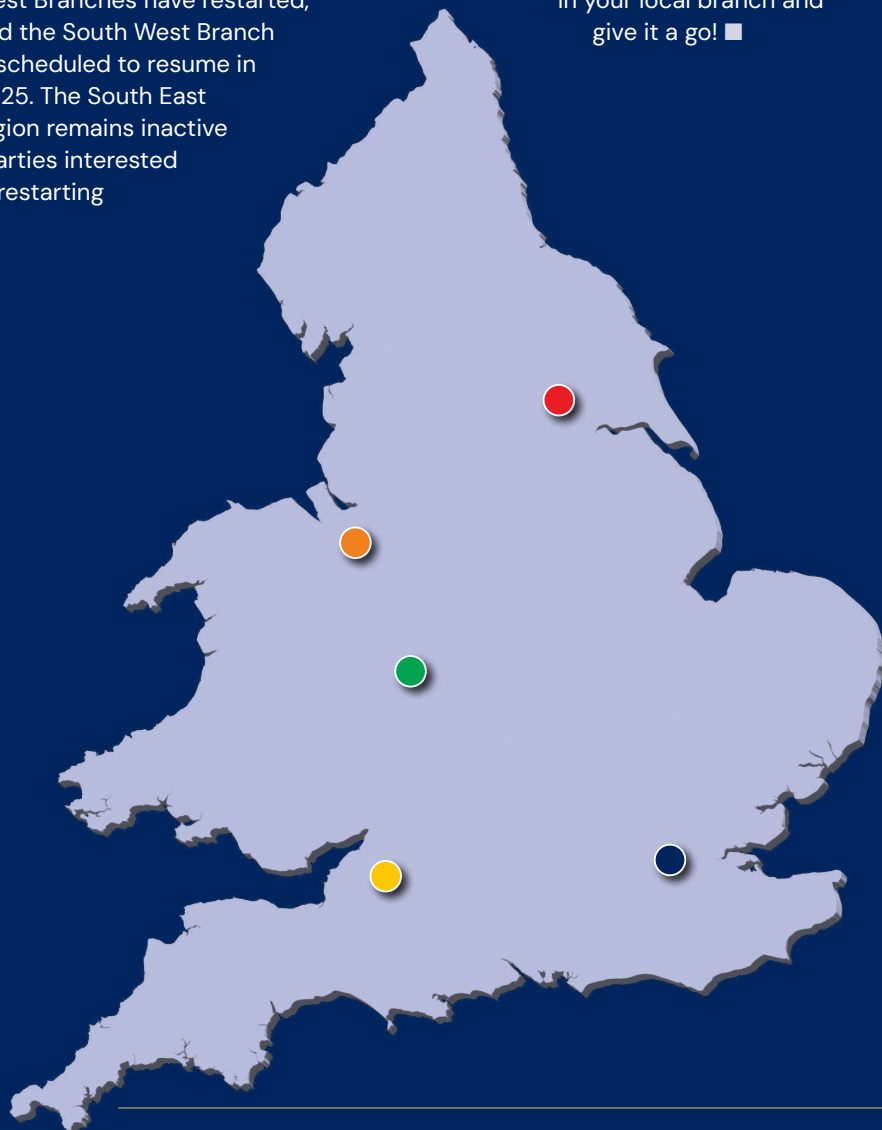
THE NORTH WEST BRANCH is located in Nantwich. Contact Liz Bailey at liz.bailey@wilson55.com

THE MIDLANDS BRANCH is situated in Birmingham. Contact Craig O'Donnell or Louise Ludlam-Snook at gemamidlands@gmail.com

THE SOUTH WEST BRANCH is reopening in Bath in 2025. Contact Rachael Boothroyd-Walker at southwest@gem-a.com

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Travelling Exhibition Focuses on the Jewellery of Dame Vivienne Westwood

Britni LeCroy provides a sneak peek into the travelling exhibition, dedicated to the late 'Godmother of Punk', which launched in Wellington, New Zealand.

This January, New Zealand residents and tourists who are curious about the world of couture will be the first in the world to explore a new travelling exhibition dedicated to the proclaimed 'Godmother of Punk', the late Dame Vivienne Westwood. The retrospective event, entitled *Vivienne Westwood and Jewellery*, will be on display at the Museum of New Zealand/Te Papa Tongarewa in Wellington before beginning a global tour across Asia, Europe and North America starting in the spring of 2025. The show features over 550 pieces of jewellery, with fifteen

complete ensembles and garments spanning from the 1980s to the present day. According to the fashion house's design team, "Jewellery plays an essential role in defining that iconic 'Vivienne Westwood look' and this new exhibition explores the design codes and subversive spirit of the British design house through this prism."

The curators at Te Papa Museum state that visitors can expect eclectic pairings of jewellery and garments recalling iconic past collections and runway shows evoking the fashion house's iconic style. Each creation is presented as an individual *objet d'art*,



Vivienne Westwood in 2008, as photographed by Jo Metson Scott. She wears a papier-mâché tiara from the Gold Label collection (Autumn/Winter 2000–2001).

surrounded by a 'chaos' of multimedia. Wall prints, catwalk looks, imagery, audio and video contribute to the ambience of the exhibition. The story of Vivienne Westwood as a fashion tour de force is told through a series of rooms, each meticulously curated with distinct decades of design, from punk *Origins* to fantasies of *Wonderland*, from the ecological philosophy of *Do It Yourself* to the *Exploration* of cultures.

Vivienne Westwood's iconic brand was born out of the 1970s British punk scene. From humble beginnings selling her jewellery at a stall on Portobello Road, she progressed to operating a boutique (under a variety of names over the course of the decade) at 430 King's Road in Chelsea with her then-partner, music manager and promoter Malcolm McLaren. She emerged during a time when, in an ever-evolving cycle, music was politics, politics was lifestyle, lifestyle was fashion and fashion was impacted by music. Ms Westwood assumed her position in the fight with fashion. Her designs ranged from eccentrically refined to harmoniously brash fueled by the angst and ambition that is almost guaranteed with youth. Her once-humble shop exploded with commonfolk popularity and celebrity interest from zeitgeist punk bands such as the Sex Pistols and the New York Dolls. In an ode to her brilliance, Ms Westwood elevated her styles into avant-garde while retaining their anti-establishment



The Bird Watches brooch, from the Gold Label Autumn/Winter 2005–2006 collection, uses a watch face, brass and other metal equipment in its composition.

allure, causing the high fashion community to take notice. Throughout her life she's been the recipient of numerous accolades including the Leonardo da Vinci Lifetime Achievement award and three British Designer of the Year awards. She was made a Dame Commander of the Order of the British Empire by Queen Elizabeth II in 2006.

While many people know her for clothing designs, Dame Vivienne's sartorial contributions did not begin and end exclusively with apparel. She understood the role of accessories in an ensemble, even going as far as occasionally sending models down the runway *sans* entire articles of clothing to 'let the accessories speak'. Her most sought-after pieces are those known as The Orb. Created in the mid-1980s from an impulse to bring tradition into the future, the orb eventually became her brand's logo. The motif features a Maltese cross (inspired by the United Kingdom's Crown Jewels) and a ringed



The Original Orb pendant necklace from the Gold Label collection (Autumn/Winter 1988–1999) comprises a cubic-zirconia ball, crystals and brass.



The Cherrie bracelets and brooch, created from recycled Coca-Cola cans and brass, are representative of Vivienne Westwood's DIY aesthetic.

planet (inspired by images of Saturn), both fitting for a British designer whose flair is hardly known as down-to-earth.

Dame Westwood was passionate about environmental activism and found obvious as well as covert ways to incorporate this ideology into her designs. Many of her pieces encompassed a recycled or do-it-yourself (DIY) aesthetic. In her early

career, this involved punk-inspired materials such as safety pins and magic markers. Eventually, she moved to using more unusual materials; the Cherrie bracelets and brooch, crafted from Coca-Cola cans and brass, is one such example. She also began using more luxurious components. Her Fall/Winter 2005 collection explored the 'peculiar' in a neutral palette, resulting in pieces like a brooch constructed with gold-tone watch faces, brass mechanical parts, and recycled drawing compasses. A 2016 collaboration between herself and husband of 30 years, designer Andreas Kronthaler, produced many styles bordering on the surreal, including the oversized Therese earrings, composed of rock-climbing carabiner keychains, a skull-carved scallop shell and imitation gemstones.

While Vivienne Westwood the woman died in 2022 at the age of 81, her powerhouse eponymous brand – a pioneering line created to walk between the high- and lowbrow – remains not just relevant, but influential. The work of her atelier is still regularly seen on celebrities walking red carpets. Her jewellery designs, especially those featuring The Orb, have undergone a renaissance among younger generations thanks to social media.

These fans, along with those who have watched the designer's work evolve over the decades, are sure to enjoy *Vivienne Westwood and Jewellery*. ■

Vivienne Westwood and Jewellery is on exhibition on Level 4 (Toi Art) of the Museum of New Zealand/Te Papa Tongarewa in Wellington until 26 April 2025. The museum is open every day from 10:00 a.m. to 6:00 p.m.



The Therese earrings by Andreas Kronthaler for Vivienne Westwood Spring-Summer 2019. The earrings are crafted with rock-climbing carabiner keychains, a skull-carved scallop shell, brass and imitation gemstones.

IRANIAN DEMANTOID GARNETS

A HIDDEN TREASURE

Amin Rigi, Ali Izadi Yazdanabadi and Safa Noor Murad recount the unique characteristics of demantoid garnets mined from the Bagh Borj deposits of Iran.

Demantoid garnets are among the rarest and most desired gemstones in the garnet family. Known for their unparalleled brilliance, vibrant hues and distinctive inclusions, these gems have fascinated collectors and gemmologists alike. While classic sources such as the Ural Mountains in Russia have long been celebrated, newer discoveries have brought fresh excitement to the world of gemstones. One such discovery is the Iranian demantoid garnets which, according to locals, were first discovered around the year 2000. Initially, mining from these locations was limited, but in recent years, efforts to extract demantoids from these areas have gained momentum, uncovering gem-quality treasures with unique characteristics.

A TALE OF TWO LOCALITIES

Iranian demantoid garnets are sourced from two primary regions: Bahg Borj in the Kerman Province of southeastern Iran and Takab in the West Azerbaijan Province in the northwest of the country. Takab is renowned for its striking demantoid mineral specimens, though these are not of facet-grade quality. By contrast, Bagh Borj and its surrounding areas have become the primary source of gem-quality rough material. These stones, which often host mesmerising inclusions, stand apart as geological wonders.

This 2.7 ct neon-green demantoid garnet was chosen for the Supernova collection because of its size, colour and clarity. Field of view 15.1 mm.

THE DISTINCTIVE INCLUSIONS OF IRANIAN DEMANTOIDS

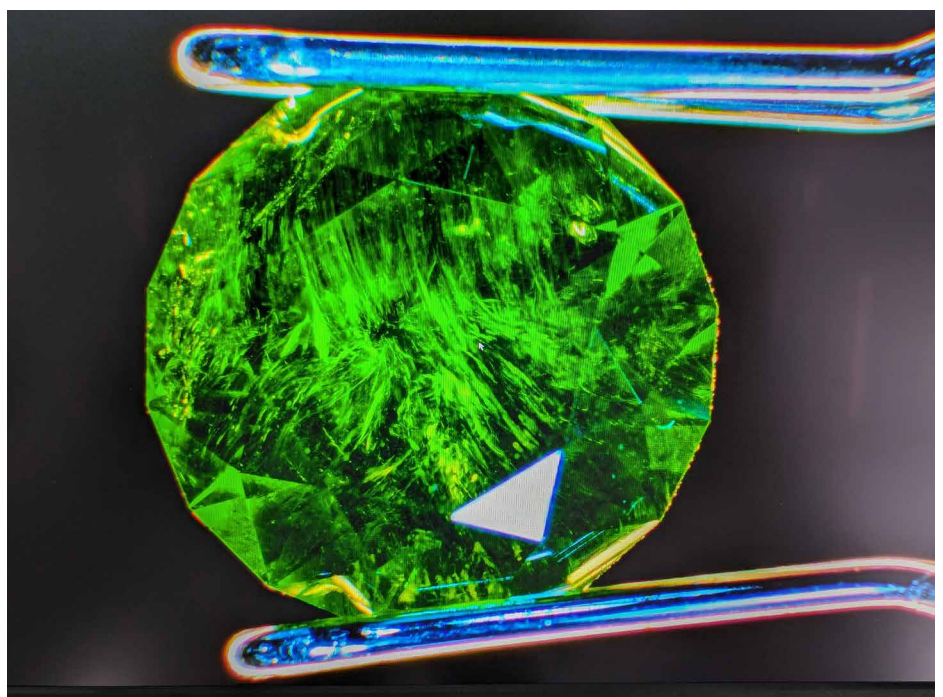
One of the most captivating features of Iranian demantoid garnets is their extraordinary inclusions, particularly the horsetail type, which vary in size and structure. These inclusions are a hallmark of demantoid garnets, enhancing their uniqueness and appeal. Iranian demantoids from the Bagh Borj region also exhibit a fascinating phenomenon: colour zoning. This feature creates distinct areas within the gemstone, with a green central nucleus that is often surrounded by yellow zones. Infrequently, the green centre may form a hexagonal shape. In other specimens, these zones can take on

softer, more curved contours when combined with classic horsetail inclusions. These features elevate the gems to extraordinary levels of rarity.

Another unusual feature that has been observed in some Iranian demantoid garnets is their colour-changing effect. Under white light, the stone may appear yellow, while incandescent light brings out a light-green hue. Additionally, the high chrome content of these garnets causes them to exhibit a vivid red colour when viewed through a Chelsea filter.

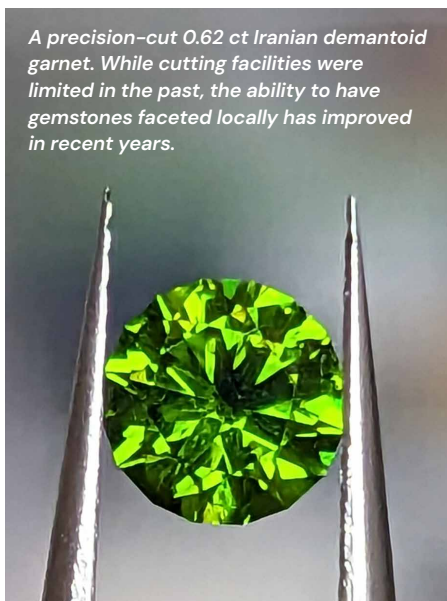
MINING THE TREASURES OF BAGH BORJ

Mining demantoid garnets in the Bagh Borj region is as challenging as it is



fascinating. This vast, mountainous area encompasses more than eighty mining areas spread across distances over 130 kilometres. The gemstones found here display a range of colours, from yellow to yellowish-green, green, olive green and black. However, stones above three carats in their rough form often become intensely dark. Larger stones of exceptional quality are uncommon; as with the demantoids of the Ural Mountains, most specimens weigh less than five carats, with only a handful exceeding ten carats.

Rainfall plays a crucial role in the discovery of new veins. After a



A precision-cut 0.62 ct Iranian demantoid garnet. While cutting facilities were limited in the past, the ability to have gemstones faceted locally has improved in recent years.

rainstorm, serpentine rocks containing demantoids often wash to the base of the mountains, guiding miners to potential deposits. Once a vein is identified, miners dig vertically—sometimes as deep as ten metres—before following the vein horizontally. This approach allows for easier soil extraction. Mines are typically small, with rectangular shafts measuring up to 1.5 x 2 metres but are often narrower, especially at greater depths. Some mines extend as deep as forty-five metres, requiring ropes, harnesses and wooden beams for safety and stability.

Primitive Methods and Modern Challenges. Despite the miners' dedication, the tools and techniques employed for production are rudimentary. Miners use basic equipment such as picks, shovels,

Mining demantoid garnets in the Bagh Borj region is as challenging as it is fascinating.

ladders and handheld drills. Soil is extracted using fabric mining buckets, which are pulled to the surface by hand or with the help of electrical motors. Wooden beams reinforce the shafts to prevent collapse. Unfortunately, primitive methods can be a safety hazard for miners and often result in damage to high-quality gemstones during extraction.

Mining teams typically consist of family members or relatives from nearby villages, with groups rotating shifts to ensure continuous work. A typical team might include three to ten members, but only a few work at the site simultaneously. Inside the mine, one person digs while another fills buckets with soil, which are then hauled to the surface by a third team member. The soil is sifted for gemstones, and any overlooked material is examined by other villagers.

The process is labour-intensive and unpredictable. Miners may uncover a pocket containing one kilogram of rough stones in a week, or they may spend months without finding

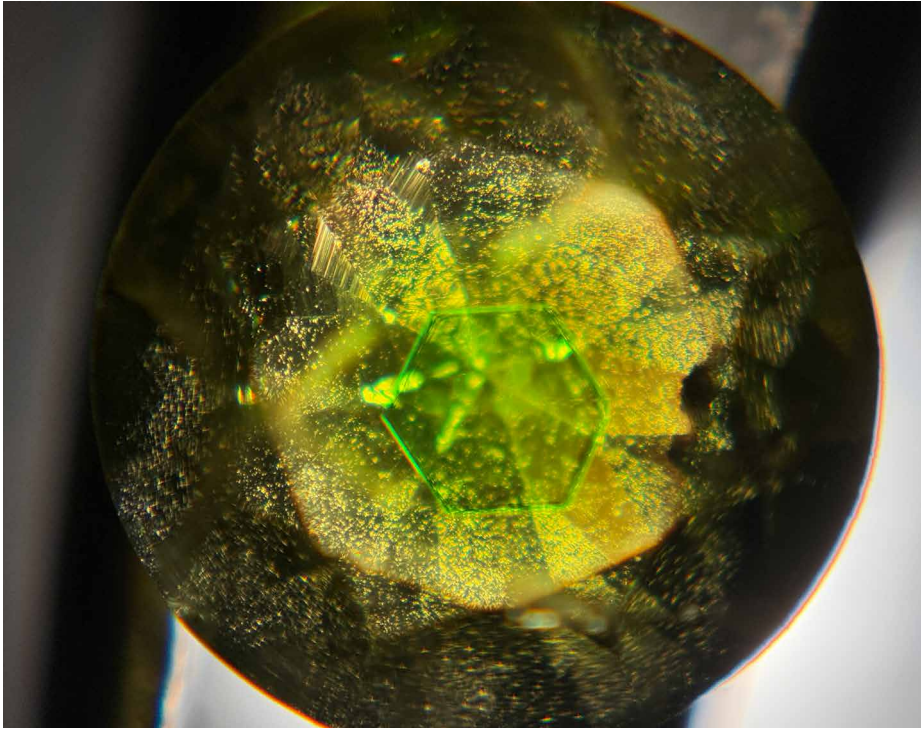
anything significant. To mitigate this uncertainty, some miners turn to chromite extraction during the winter, as the market demand for this mineral provides a steadier income.

The host rock for Iranian demantoids is primarily fibrous serpentinite, a soft material that allows for delicate extraction. Once discovered, gemstones are carefully removed from the matrix using simple handheld tools to prevent damage. Smaller stones often exhibit a perfect rhombic dodecahedron shape with twelve natural faces. Larger stones tend to lose this crystalline form, becoming rounder.

Seasonal and Environmental Considerations. The extreme temperatures of the region add another layer of difficulty. In summer, temperatures can soar above 40°C, while winter lows can plummet to -8°C. Miners must also contend with the risk of reaching natural water floors during deeper excavations. Should a vein extend into these levels, the influx of water can halt mining operations and pose safety risks.



A natural rhombic dodecahedron-shaped demantoid garnet featuring twelve natural faces. Field of view 9.0 mm.



This photo, of a 1.0 ct demantoid, highlights the extremely rare hexagonal green centre in demantoid garnets from Iran, and showcases distinct colour zoning.

chosen for its vibrant colour, impressive size and exceptional clarity. Another gem features a hexagonal-shaped inclusion with no colour zoning. Under the microscope, it exhibits a fluorescent-like illumination, with rays of horsetail inclusions radiating outward like solar flares.

Another exceptional specimen from this collection exemplifies the combination of colour zoning with curved contours and horsetail inclusions. The latter features resemble rays of light, creating a mesmerising effect. Other gems from this collection also display fascinating features, such as 'celestial' formations resembling the cosmos that are visible at specific angles.

WORKING WITH MINED DEMANTOID GARNETS

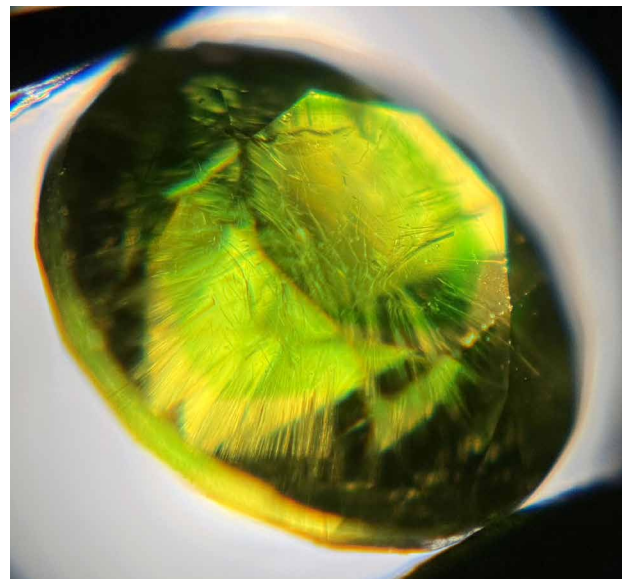
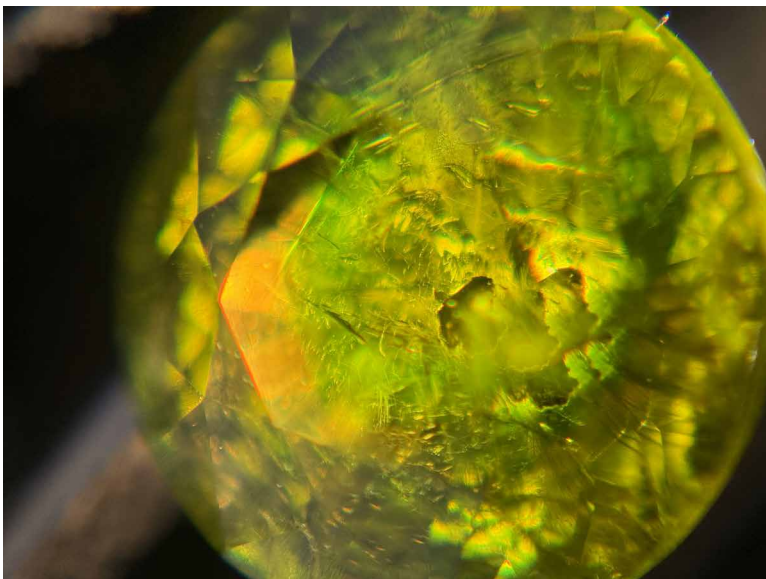
Faceting and the Art of Maximising Brilliance. Iranian demantoid garnets are typically faceted with a diamond cut to maximise their brilliance and fire. Using a critical angle of no more than 42.5 degrees ensures optimal light reflection. While alternative cuts may be employed to retain weight, achieving high-quality results requires exceptional skill. Although local faceting options are limited, recent advancements have enabled

the development of high-quality gem cutting within the region. A 0.62 ct precision-cut demantoid garnet is an example of these new capabilities.

Supernova Collection. The Supernova collection comprises more than thirty stones, meticulously accumulated since 2015, with unique inclusions. Each piece was selected for its distinct colour, spectacular horsetail inclusions and remarkable colour zoning. Gemstones in the collection include an exceptional 2.7 ct neon-green demantoid garnet,

THE MOVE TOWARD ETHICAL AND COMMERCIAL MINING

Until recently, mining in the Bagh Borj region was unregulated, carried out by villagers using basic techniques. However, a new mining license granted to a private-sector company marks the beginning of commercial-scale operations. This development promises a more supervised and ethical approach, prioritising miner safety and minimising environmental impact.



This 2.1 ct demantoid garnet (left) from the Supernova collection hosts inclusions resembling rays of light and celestial formations (right) when viewed at specific angles.



Iran's Bagh Borj deposit, with three explored demantoid veins highlighted in yellow. Photo by Shirzad Eskandari.

A new mining license granted to a private-sector company marks the beginning of commercial-scale operations, promising a more supervised and ethical approach.

Sirius Gemstones, which has collaborated with small-scale miners in the area for over a decade, now acts as an advisor to these commercial efforts. By supporting regulated practices, the company aims to ensure sustainable mining while increasing the availability of high-quality demantoid garnets and mineral specimens for the global market.

Iranian demantoid garnets from the Bagh Borj region represent an extraordinary and precious gift of nature. Their vivid colours, distinctive inclusions and occasional colour-changing effects set them apart from demantoids found elsewhere. With the transition toward commercial mining, these extraordinary gemstones are poised to reach a wider audience, captivating collectors and gem enthusiasts worldwide. Their beauty, rarity and the stories they carry from deep within the earth ensure their place as treasures of enduring fascination. ■

Large Language Models (LLMs) were used for editorial purposes by the authors of this article, with all content remaining the original work of the authors. For more information on Sirius Gemstones, visit siriusgemstones.com.



This 0.86 ct demantoid garnet from the Supernova collection hosts a hexagonal-shaped inclusion without colour zoning. It exhibits a fluorescent-like illumination when viewed with a microscope, with rays of horsetail inclusions radiating outward like solar flares.

All photos are courtesy of Sirius Gemstones unless otherwise indicated. All fields of view are 7.5 mm unless otherwise indicated.

REPORT FROM THE

TREASURES COLLOQUIUM

Jennifer-Lynn Archuleta provides a look at the presentations and panels held at the Royal Treasures Museum in Lisbon in November 2024.

The first Treasures Colloquium was held at the Royal Treasures Museum in Lisbon, Portugal, on 8–9 November 2024. The event was organised around the topic of “Royal Gems and Jewellery.” By concentrating on the precious objects associated with royalty – whether privately owned or as part of a Crown Jewels treasury – the colloquium acted as a window to the past while also considering the challenges of maintaining royal collections and other important gemstones and jewellery pieces in the future.

The first day of the Colloquium opened with remarks from master of ceremonies **Rui Galopim de Carvalho FGA DGA** (Lisbon), **Nuno Vale** (Royal Treasure Museum) and **Gaetano Cavalieri** (World Jewellery Confederation–CIBJO). They were followed by **José Alberto Ribeiro** (Ajuda National Palace) who

Attendees were granted a behind-the-scenes look at the collections of the Royal Treasures Museum. The objects on display included the royal crown created by António Gomes da Silva in the workshop of Inácio Luís da Costa comprising gold, silk, cotton and silver.

reviewed the royal collections at the Royal Treasure Museum. These include the crown jewels of Portugal, along with exquisite jewellery used in civil and religious ceremonies. The collection also features some of the most impressive European royal tableware from the eighteenth century.

The Royal Collection of the United Kingdom contains the most complete set of regalia of any country that is still in royal use. Objects from the regalia were most recently employed in the

coronation of King Charles III and his consort, Queen Camilla; this was the first such event in seventy years. **Caroline de Guitaut** (Royal Collection Trust) discussed the Crown Jewels of England that were seen at the 2023 coronation.

While the Smithsonian Institution’s National Gem Collection is not the crown jewel repository of any country, nor is it the accumulated wealth of royalty, it has many gems or jewellery pieces of royal lineage. These include the 262-carat Napoleon Diamond necklace, the Maharaja of Indore emerald-and-diamond necklace and a 75-ct emerald that once belonged to the former Sultan Abdul Hamid II of the Ottoman Empire. **Jeffrey E. Post**, curator emeritus of the Smithsonian Institution’s National Museum of Natural History, reviewed these and other royal-associated pieces in the collection.

Displays of enormous wealth in the form of jewels have always been affirmations of sovereignty to the emperors and maharajas of India; these displays remained relevant through the late twentieth century. Independent art history scholar and author **Usha Balakrishnan** (Mumbai)



spoke to the audience on this legacy. She focused on the Asaf Jah Nizams of Hyderabad, one of the most powerful and wealthy dynasties of the Indian subcontinent. One of the most famous auction houses in the world, Christie's has been operating since 1766 and has a long history of jewellery sales. **Pedro Girão**, chairman emeritus of Christie's international advisory board, shared a behind-the-scenes look – complete with photographs – from some of the gem and jewellery sales held by the auction house.

A panel on excellence in the jewellery arts was moderated by Francisco Carvalheira (LAUREL) closed out the first day of the colloquium. The creation of jewelled pieces for royalty was, in the past, performed by goldsmiths and designers who passed down methods and traditions to younger generations. In the present day, professionals who have not been trained in these skills are finding their lack hard to overcome with technology alone. The matter was discussed by Dr Gaetano Cavalieri, Jorge Leitão (Leitão & Irmão), Emmanuelle Amiot (l'École, School of Jewellery Arts) and Laurent Dhennequin (Comité Colbert). The day's itinerary ended with a gala dinner at Ajuda National Palace.

Saturday, 9 November was set aside for presentations, masterclasses and guided visits. Tours of the museum's vaults and the Royal Residence of the Ajuda National Palace ran through the day, as did a workshop on technology and innovation in jewellery collections. Two presentations were offered, on conservation efforts of the Royal Treasures Museum and the Castellani jewellery of Queen Maria Pia of Portugal. Two presentations, entitled "The Orders as a Dynastic and Diplomatic Instrument" and "Gemstones in The Portuguese Royal Collection," were also held.

The Ajuda National Palace was conceived by King John VI (1767–1826) as one of the largest palaces in the world, meant to contain the riches of the Portuguese Empire. Since June 2022, it has housed the Royal Treasures Museum, which boasts an amazing collection of jewellery and *objets d'art* that belong to the Portuguese Royal family. The palace preserves spaces



The Colloquium was well attended on both days, with an engaged audience who participated in discussions.

In the present day, professionals who have not been trained in skills traditionally passed down through generations by goldsmiths and designers are finding their lack hard to overcome with technology alone.

almost exactly as they were at the end of the monarchy in Portugal in 1910, providing a glimpse into the original setting of private and political life that shaped Portuguese history. The palace's collection is extensive, consisting of over 127,000 items from the royal family dating back to the sixteenth century. In addition to the gemstone, jewellery and regalia, these collections include

paintings, ceramics, sculptures, textiles, furniture, glassware, photographs and objects from the decorative arts.

The second Treasures Colloquium has been scheduled for 13–14 November 2026. The theme of this event will be "Royal Crowns and Tiaras." ■

All photos courtesy of the Treasures Colloquium unless otherwise indicated.



The Acclamation Section of the Royal Treasures Museum has a portrait of King John VI alongside the Royal Crown, sceptre and mantle. Photo © Royal Treasures Museum.

RECIPROCITY JEWELS EXHIBITION SPOTLIGHTS PERUVIAN FAIRMINED GOLD

Nicole Ahline FGA reviews the third annual exhibition of a collective dedicated to ethically source Fairmined gold.

The Reciprocity Jewels initiative, a community of visionary fine jewellery designers committed to transparency and ethical sourcing, presented their third collaborative collection in November 2024 at NYC Jewelry Week. Established by four designers – Andrea Jose, Jacqueline Barbosa, Dana Bronfman and Delphine Leymarie – to combat the social and environmental destruction that comes from gold mining, their intention was to create a human connection between the consumer and the people who mine the materials used in their jewellery. Since 2022, Reciprocity has made it possible for independent jewellers around the world to create one-of-a-kind pieces using gold and silver that was responsibly mined in the Amazon. The 2024 exhibition showcased twenty designers from around the world who used Fairmined gold produced by artisan miners in the Madre de Dios region of Peru.

Roughly half of the gold mined in Peru is produced artisanal miners who rely on mercury to assist with their efforts due to efficiency. This method is incredibly dangerous for both the miners (causing long-term health issues such as neurological damage) and the surrounding environment through the contamination of the air, soil and water. Reciprocity Jewels works directly with miners who are ethically and responsibly mining gold via mercury-free mining and reforestation practices. In Andean communities, *ayni* – or reciprocity – is a timeless, deeply respected principle. Rooted in Inca tradition, it weaves together relationships between people and Mother Earth. The Andean proverb, “Today for me, tomorrow for you,” recognises that relationships are meant to last a lifetime. This is a mindset shared by the founders of the initiative. “Geographically isolated miners are vital to a responsible supply chain,” noted cofounder and designer



In her second year as a Reciprocity exhibitor, Christine Olowonira of Coccoerow displayed her Opal Kokoro pendant. The piece is composed of opal (2.60 tcw), emerald (0.41 tcw), sapphire (0.14 tcw), aquamarine (0.08 tcw), tourmaline (0.16 tcw), tanzanite (0.09 tcw), solar lab-grown diamond (0.05 tcw) and 18K Fairmined yellow gold. The gold was mined by Lucila in Peru.

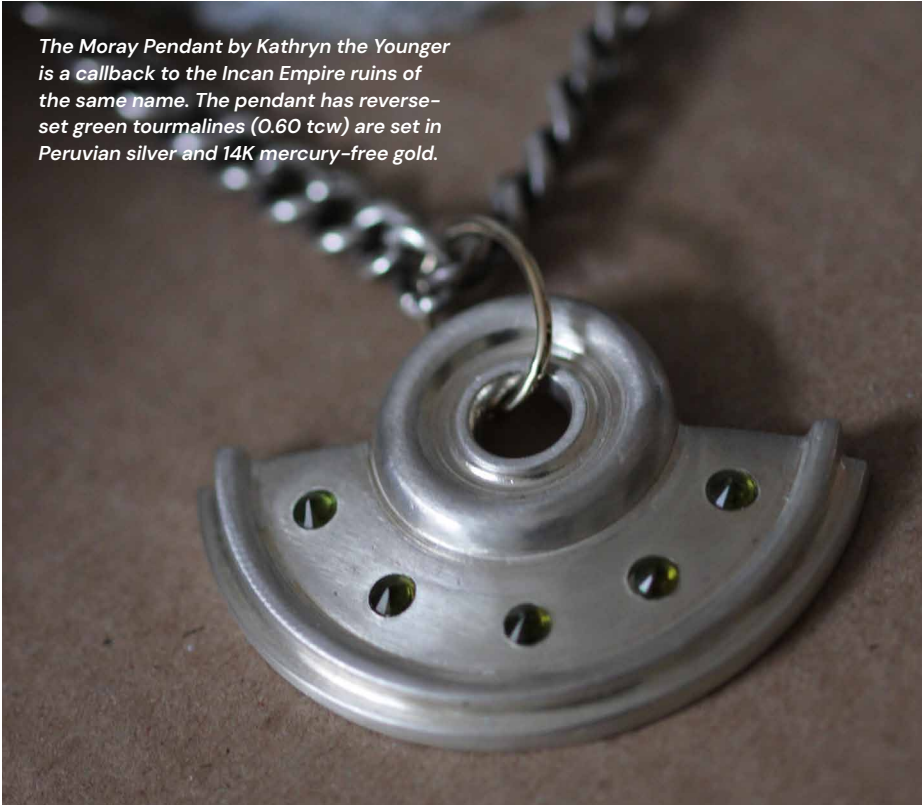
Delphine Leymarie. “If we fail to invest in them, they are forced to resort to unsustainable methods just to get by. By working together, we are not only supporting their livelihoods, but also creating solutions to deforestation and transforming the jewellery supply chain into one that truly benefits everyone.”

The Tauro Fátima Artisanal Miners Association (AMATAF) collective of miners are educated on ways of alluvial gold mining and reforestation through working with Pure Earth, a not-for-profit environmental health organisation. AMATAF is the first alluvial mining organisation in the Amazon to achieve Fairmined status. By using Fairmined gold, jewellers and consumers can be assured that gold sourced from empowered artisanal and small-scale mining

The Estudio Alba Puya Resilience stud earrings are crafted from 18K mercury-free Peruvian gold mined by Evelyn Celadita.



The Moray Pendant by Kathryn the Younger is a callback to the Incan Empire ruins of the same name. The pendant has reverse-set green tourmalines (0.60 tcw) are set in Peruvian silver and 14K mercury-free gold.



mission by shifting the consumers mindset away from the jeweller to the miner. The pieces themselves were adorned with the name of the gold or gemstone miner whose work was used to create these distinctive and thought-provoking pieces.

Since their first exhibit in 2022, the collective has increased their list of collaborators, and some of these jewellers have worked with Reciprocity in the past, such as Kathryn Kelly (Kathryn the Younger), Maria Chercoles (Estudio Alba) and Susan Wheeler (Virtu Gem). Others, such as Emily Chelsea and Delphine Tempels, were contributing for the first time.

The exhibition, which was held 19–21 November at Berimbau Midtown, opened with a panel titled “From Drops to Rivers of Change: The Power of Collaboration in Responsible Sourcing.” The goal of the panel was to showcase the ever-evolving work and positive influence of responsible jewellery; Caroline Baylor (Pure Earth), Dana Bronfman (Reciprocity), Jennifer Gandia (Greenwich St. Jewelers) and Cristina Villegas (Pact). The panels was moderated by Elyssa Jenkins-Pérez (Responsible Jewellery Council).

The exhibition was open to the public on 20–21 November, with a portion of the exhibitions proceeds going back to Pure Earth. The pieces were displayed in a rainforest-like setting, paying homage to their Amazonian roots.

In Andean communities, *ayni* is a timeless, deeply respected principle that is rooted in Inca tradition...This is a mindset shared by the founders of the initiative.

organisations that adhere to world-leading standards for ethical practices.

Andrea Jose, one of Reciprocity Jewels founders, is a Peruvian jeweller herself, one who has a long history of promoting ethical mining practices. She worked with the collective on forming their production into sellable nuggets. This ethically sourced material, all of which was purchased at a fair price and can be traced back to its miner, was used in the jewellery at the exhibition. One of the designers, Emily Chelsea, focused on this aspect of Reciprocity's

Jeweller-designer (and cofounder of Reciprocity Jewels) Delphine Leymarie crafted the Boheme Monstera Snake brooch with 19K Fairmined mercury-free yellow gold by Vitalis, .915 silver, and a 0.03 ct round purple Moyo sapphire.



RECIPROCITY JEWELS

Below are the twenty global jewellery brands (with their Instagram handles) that worked with Reciprocity Jewels for the 2024 exhibition.

- Andrea Jose @andreajosejewels
- Christine Olowonira of Coccoerow Fine Jewelry @coccoerow
- Clarisse Rassi @clarisserassi
- Dana Bronfman @danabronfman
- Delphine Leymarie @delphinejewelry
- Delphine Temples @delphinetempels
- Emily Chelsea of Emily Chelsea Jewelry @emilychelseajewelry
- Gina Melosi @ginamelosi
- Jacqueline Barbosa of Barbosa @barbosanewyork
- Johanna Brierley @johannabrierleyjewellery
- Jonny of Assorted JJAR @assortedjjar
- Kathryn Kelly of Kathryn the Younger @kathrytheyounger
- Keiko Oshima of Moribijoux of @moribijoux_bfdj
- Maria Chercoles of Estudio Alba @holaestudioalba
- Melissa Scoppa Fine Jewelry @melissascoppa
- Moein Shashaie of ZANGAR @zangarjewelry
- Safa al Buraiki of TUR Jewellery @turjewelry
- Sandrine Valentine of Sandrine B. Jewelry @sandrinebjewelry
- Saskia Shutt @saskiashuttdesigns.brussels
- Susan Wheeler @susan_wheeler_jewelry

Delphine Tempels created the Casiopea ring using 18K Fairmined yellow gold along with diamonds mined from Botswana.



A portion of the exhibition's proceeds benefited Pure Earth, the aforementioned not-for-profit organisation. Founded in 1999, Pure Earth focuses on promoting sustainable mining practices by protecting communities from toxic pollutants such as lead and mercury. They also promote and employ sustainable solutions in collaboration with governments, communities and industry leaders.

Sustainable and ethical sourcing, along with the education behind it, is continuously evolving and growing. The jewellery trade is only getting started on where they can go from here to make a long-standing impact.

Reciprocity Jewels is one of the many global initiatives paving the way for a better future. The increase in collaborators, media presence and attendees depicts how sustainability and an ethical jewellery trade is gaining traction. In turn, efforts such as the Reciprocity Jewel initiative demonstrates how designers and consumers alike can contribute to solutions along the gem and jewellery supply chain. ■

All photos courtesy of Reciprocity Jewels unless otherwise indicated.

For more information on this initiative, visit reciprocityjewels.com.

Accompanying the pieces, or jewellery suites, was information on the artist along with the name of the miner of the metal. The display was set up in a way that allowed uninterrupted views, while stimulating conversation about the initiative's mission and the pieces.

The exhibition closed on 21 November with a panel "Weaving Reciprocity: Solutions from the Amazon for a Better Future." The speakers – Eddie Ajalcrifa (Neofibers), Renzo de la Peña (Wyss Academy for Nature) and Andrea Jose – discussed the optics of sustainable solutions for the Amazon. The panel was followed by a conservation-focused roundtable discussion and networking event.



The Blog ring by first-time exhibitor Johanna Brierly uses post-consumer diamonds, along with Sri Lankan and Madagascan sapphires, mounted in 14K Fairmined yellow gold mined by Luis Celadita. Photo by Andrew Miller, courtesy of Johanna Brierly.



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Reflecting on the **IMPORTANCE** of **PHOTOMICROGRAPHY**

Liviano Soprani, the first-prize winner in the 2024 Photographer of the Year competition, discusses his photomicrography work and jewellery design services.

This year's Photographer of the Year competition received many outstanding entries, excellently executed both from a technical standpoint – managing exposure and framing – and in terms of resolution and detail. I believe this is a clear sign that the number of photomicrography enthusiasts is significantly increasing. This will continue to contribute to the spread of valuable gemmological information, both for students and professionals.

I began experimenting with photomicrography over fifteen years ago, driven by both passion and the need to build a personal database that would complement the valuable information found in books or accessible through online platforms.



I graduated as a gemmologist and gem cutter in 1996. I opened my own gemstone cutting workshop, with a gemmological analysis laboratory and appraisal service. I immediately began traveling to the main markets in India, Thailand and Hong Kong to source the best stones at the most competitive prices. For the first 10–15 years of my career, my primary focus was gemstone cutting and sales alongside analysis. Over time, I decided to branch out into creating custom-made jewellery for my clients. I guide each client person through gemstone selection, providing all the technical information that only a trained gemmologist can offer, and to design the perfect piece of jewellery to match their aesthetic tastes.

The advantage of being a gemmologist also lies in my ability to introduce the public to gemstones that are typically not featured in traditional jewellery stores. Combining gemmology with gem cutting and the creation of bespoke jewellery through 3D design and printing technologies is the key to the future of the industry. Clients

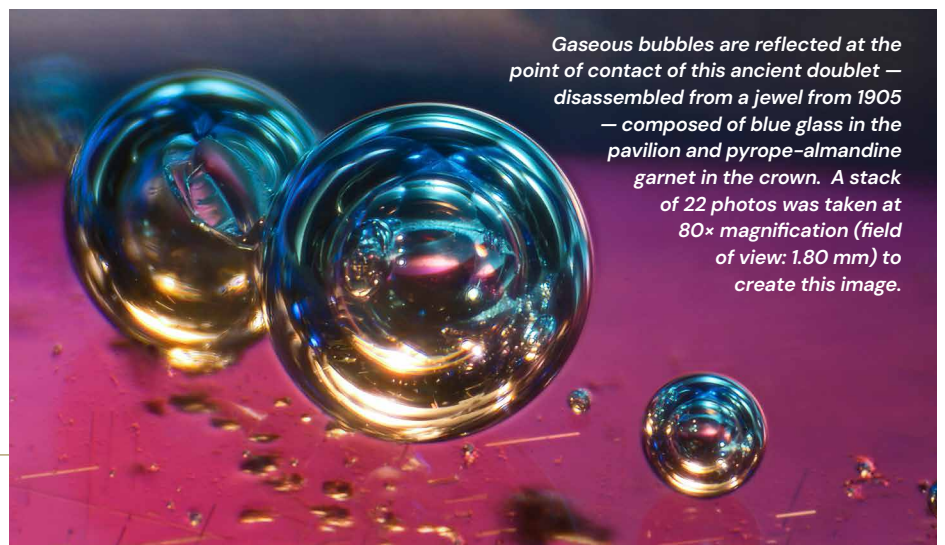
Left: In this ring created through 3D design, a natural, unheated 1.72 ct Mozambique ruby is flanked by 1.91 tcw diamonds and 0.30 tcw rubies and mounted in 18K white gold.

appreciate the ability to see a rendering of their piece before it is made, to discuss its details and to adjust the piece to ensure it feels uniquely theirs.

As for my photography work, I regularly publish my photomicrographs on social media pages dedicated to inclusions, as they might be useful to others. I aim to offer my contribution to gemmology through my images, always accompanied by technical details such as the type of lighting used, magnification factor, field of view and the number of images in the stacking process. This provides aspiring photomicrographers with valuable insights into how these results were achieved, perhaps helping them improve their own skills.

In my gemmological analysis certificates – whether for diamonds or coloured stones – I always include a photomicrograph of the gem's main inclusions. This image becomes a unique digital fingerprint, a feature that enables immediate identification of the stone and its association with the corresponding certificate. It also provides the client with a glimpse into a hidden world within the stone, helping them understand that inclusions are not necessarily defects, but in some cases can add genuine value. ■

This passion, and my desire to improve the quality of my images, led me to experiment with different equipment and lighting techniques. Each gem presents unique challenges, and the inclusions themselves require various types of lighting to be effectively showcased. Techniques such as transmitted, diffused, darkfield, reflected, fibre-optic or ultraviolet lighting are often needed to capture the essence of these tiny features.



Gaseous bubbles are reflected at the point of contact of this ancient doublet – disassembled from a jewel from 1905 – composed of blue glass in the pavilion and pyrope-almandine garnet in the crown. A stack of 22 photos was taken at 80× magnification (field of view: 1.80 mm) to create this image.



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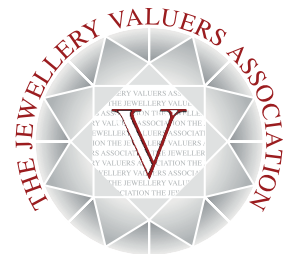
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Melissa Lee-Patrick FGA DGA

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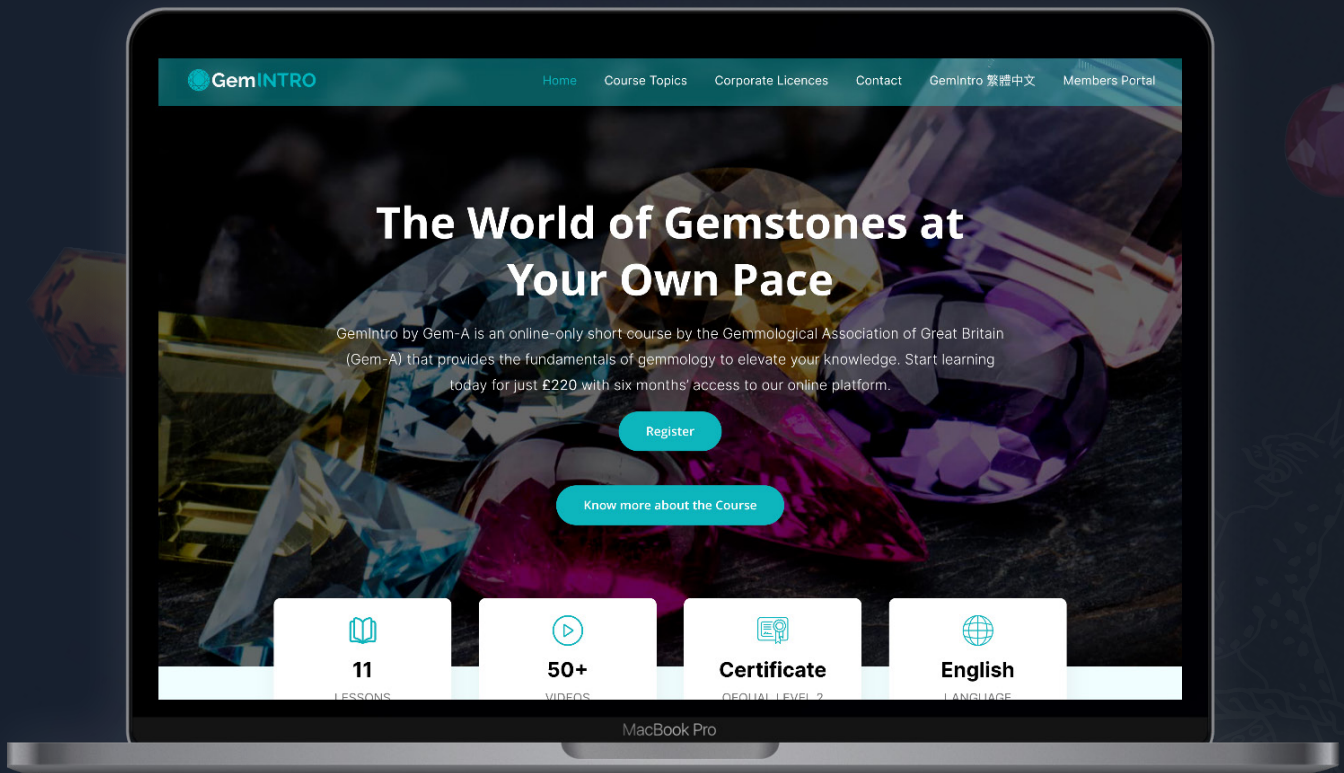
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