

AGA WEBINAR PROFESSIONAL DEVELOPMENT OCTOBER 2023

Episode - no. 3 Chatbox - notes and url links

AGA Celebrity Gemologist Interviews

In the spring of 2022, AGA launched the professional development webinar series "AGA Celebrity Gemologist Interviews." These interviews are open to all and free to attend (live or post-event recorded sessions) and feature the headliners and celebrities of gemology. The format is designed to deliver a personal "get to know the person behind the persona" experience.

AGA strives to inspire individuals to develop an interest in and pursue a profession or career in gemology by sharing the extraordinary stories of our "Celebrity Gemologists."



LIVE INTERVIEW: OCTOBER 10, 2023 CELEBRITY GEMOLOGIST: DR. JAMES SHIGLEY GUEST INTERVIEWER: DONA DIRLAM



Celebrity: Dr. James Shigley

Dr. James Shigley is a distinguished research fellow at the Gemological Institute of America in Carlsbad, California. Prior to joining GIA in 1982, he studied geology as an undergraduate at the University of California Berkeley, and later received his doctorate in geology from Stanford University. He helps direct GIA's research activities on the identification of gemstones and has ongoing research interests in the natural environments of gem mineral formation as well as the characterization of gem materials. Dr. Shigley is the author of more than 180 published articles on diamonds and other gemstones in various journals and has been a well-known speaker on gemological topics to both professional and general audiences on more than 300 occasions.

Dr. Shigley was the recipient of the <u>AGA Antonio C. Bonanno Award for Excellence in</u> <u>Gemology</u> in 2008.



Interviewer: Dona Dirlam

Dona Dirlam is a geologist, gemologist, author, and is most notably GIA Librarian Emeritus of the Richard T. Liddicoat Library and Information Center, at GIA. Personally selected by Mr. Liddicoat, Dona was the driving force that built GIA's library to the world-renown resource it is today. Dirlam was the library's director and retired in 2017, after serving GIA for thirtyeight years (<u>full bio from GIA</u>).

In 2015, Dona Dirlam received the AGA Lifetime Achievement Award.



AGA WEBINAR PROFESSIONAL DEVELOPMENT



Episode - no. 3

CHATBOX - NOTES AND URL LINKS

- Learn more about Accredited Gemologists Association (AGA)
- AGA website: <u>www.accreditedgemologists.a</u>
- AGA Membership:
 - Contact AGA: <u>exec.admin@accreditedgemologists</u>

Chat box content shared during the live interview:

Jim Shigley and Dona Dirlam have each served the gemological community for more than four decades, both in their careers at GIA and beyond. In their respected roles at GIA, the significant contributions by Shigley and Dirlam helped drive and make these GIA service departments respected worldwide.

- GEMOLOGICAL INSTITUTE OF AMERICA (GIA) WWW.GIA.EDU
- **GIA RESEARCH** <u>www.gia.edu/research</u> Supporting the gemology, earth science, and research communities through publications, field gemology, scientific equipment & techniques, presentations, and collaboration with academia.
- RICHARD T. LIDDICOAT LIBARY & INFORMATION CENTER (located at GIA World headquarters, in Carlsbad, California) <u>www.gia.edu/library</u> - 65,000 volumes, 230,000 images, 2,200 videos, 1,200 periodicals, and the Cartier Rare Book Repository & Archive making this the largest and most complete gemological library.

Dr Shigley studied geology at the following institutions

• University of Califonia - Berkeley (undergraduate Diploma in Geology) and Stanford University (Doctorate in Geology)

How did Dr. Shigley decide to join GIA staff?

A trusted advisor and friend, at Stanford, advised Dr. Shigley to visit (previously unknown to Shigley) the "school for gems", GIA located in Santa Monica, California. On this visit, GIA's Richard T. Liddicoat met with Shigley and suggested he join the research team at GIA, in 1982. (Read a <u>tribute article on Mr. Liddicoat</u>, <u>authored by Dona Dirlam</u>, following his passing)

1980's - Research on the first commercially available synthetic diamonds, an article, and outreach to DeBeers

In early 1980's, Sumitomo Corporation made synthetic diamonds commercially available. Dr. Shigley prompted the purchase and research of these stones in GIA. This resulted in the 1986 article (see article list) "The Gemological Properties of the Sumitomo Gem-Quality Synthetic Yellow Diamonds" and Shigley's initiative, to send a copy of the article to DeBeers. This action opened the dialog between GIA and DeBeers' researchers, a relationship that remains to this day..

• About: DeBeers DeBeers Research DeBeers (Maidenhead)

DeBeers invited Shigley to visit South Africa and some of their significant diamond mining operations

• One of these visits included a tour of the fames Cullinan Mine

1990's - Research on Colored Diamonds: As interest and demand grew for colored diamonds, GIA addressed the challenge of a global standard to describe their color. Dr. Shigley suggested using <u>Munsell Color System</u> to describe diamonds. (See article: "Color Grading of Colored Diamonds in the GIA Gem Trade Laboratory" 1994 in article list)



AGA WEBINAR PROFESSIONAL DEVELOPMENT



Episode - no. 3

CHATBOX - NOTES AND URL LINKS

Chat box content shared during the live interview:

GIA addresses diamond "Cut" with an extensive multi-year research initiative resulting in the development of a system of diamond cut grade (for round brilliant diamonds). (See article "A Foundation for Grading the Overall Cut Quality of Round Brilliant Cut Diamonds" 2004, in article list)

GIA and the Carnegie Institute – Dr. Jim Shigley, throughout his career, has continued to develop relationships with scientific institutions across the world. One of these longtime professional relationships resulted in the co-authored article between Shigley and Dr. Steve Shirey, a senior scientist in the Department of Terrestrial Magnetism of the Carnegie Institution in Washington, DC. Shirey is one of the world's leading diamond geoscientists. (See article list for "Recent Advances in Understanding the Geology of Diamonds, 2013)

Shigley, Dirlam and the Geological Society of America (GSA) www.geosociety.org – as geologists committed to spreading their passions for earth science and the opportunities for research and collaboration, Dona Dirlam personally represented GIA at the annual GSA Conference for many years. In 2012, Dona and Dr. Shigley submitted a proposal to GSA opening a gemological research track for their next conference. It was accepted. Shigley and Dirlam, under GIA, launched the session and have been involved annually for its continuation, thus exposing the academic and scientific communities to research opportunities and potential collaborations in gemology.

- About GSA Founded in 1888, GSA is a global scientific society with members from academia, government, and industry in more than 100 countries. Through its meetings, publications, and programs, GSA enhances the professional growth of geoscientists at all career levels, encourages cooperative research among earth, life, planetary, and social scientists, fosters public dialogue on geoscience issues, and promotes the geosciences in the service of humankind. GSA is headquartered in Boulder, Colorado, USA.
- Read article about GIA's first and significant opportunity to discuss gemology at GSA Session Meeting ARTICLE: James E. Shigley and Dona M. Dirlam (2014) <u>Gem Session at 2014 GSA Meeting</u>. Gems & Gemology, Vol. 50, No. 4
- https://www.gia.edu/gems-gemology/winter-2014-gemnews-gem-session-2014-gsa-meeting

Dr. Shigley's East Africa visit propelled a program to help artisanal gem miners – Shigley visited gem producing countries and mines in East Africa on a research trip. His observations on this trip and the variable of wealth between the artisanal gem miners and ultimately the locations and people worldwide, where these natural resources are admired and purchased by consumers, prompted an idea. He brought back the question and mission "how can we help the miners through gemological education?". Fast forward, GIA backed the project with its endowment, created the first gemstone guide for artisanal miners and aligned with the non-government organization (NGO) PACT to ensure its proper delivery and acceptance in the East African mining communities.

- READ MORE ABOUT THE GEM GUIDE FOR ARTISANAL MINERS AND ITS ONGOING SUCESS
- <u>Learn more about PACT</u> Pact is an international nonprofit organization that works in nearly 40 countries building solutions for human development that are evidence-based, data-driven and owned by the communities we serve. Its vision is thriving, resilient, and engaged communities leading their own development.

Another project Dr. Shigley was significantly involved in spearheading:

• <u>GIA'S GÜBELIN GEM PROJECT</u> GIA studied more than 400 important gemstones from the Gübelin Collection and has committed to sharing this repository of gemological information. This work is a valuable resource for all students, gemologists, and researchers.



AGA WEBINAR PROFESSIONAL DEVELOPMENT



Episode - no. 3

CHATBOX - NOTES AND URL LINKS

PROVIDED BY DR. JAMES SHIGLEY:

A complete and chronological list of every article referenced during his interview. ALL OF THESE ARTICLES ARE FREE TO READ/DOWNLOAD FROM GIA.edu

Crowningshield G.R. (1971) General Electric's cuttable synthetic diamonds. Gems & Gemology, Vol. 13, No. 10, pp. 302–314.

Koivula J.I., Fryer C.W. (1984) Identifying gem-quality synthetic diamonds: An update. Gems & Gemology, Vol. 20, No. 3, pp. 146–158.

Shigley J.E., Fritsch E., Stockton C.M., Koivula J.I., Fryer C.W., Kane R.E. (1986) <u>The gemological properties of the Sumitomo</u> <u>gem-quality synthetic yellow diamonds.</u> Gems & Gemology, Vol. 22, No. 4, pp. 192–208.

Shigley J.E., Fritsch E., Stockton C.M., Koivula J.I., Fryer C.W., Kane R.E., Hargett D.R., Welch C.W. (1987) <u>The gemological</u> properties of the De Beers gem-quality synthetic diamonds. Gems & Gemology, Vol. 23, No. 4, pp. 187–206.

Fritsch E., Shigley J.E., Rossman G.R., Mercer M.E., Muhlmeister S.M., Moon M. (1990) <u>Gem-quality cuprian-elbaite</u> tourmalines from São José da Batalha, Paraíba, Brazil. Gems & Gemology, Vol. 26, No. 3, pp. 189–205.

King J.M., Moses T.M., Shigley J.E., Liu Y. (1994) <u>Color grading of colored diamonds in the GIA Gem Trade Laboratory.</u> Gems & Gemology, Vol. 30, No. 4, pp. 220–242.

Hemphill T.S., Reinitz I.M., Johnson M.L., Shigley J.E. (1998) <u>Modeling the appearance of the round brilliant cut diamond: An</u> <u>analysis of brilliance.</u> Gems & Gemology, Vol. 34, No. 3, pp. 158–183.

King J.M., Moses T.M., Shigley J.E., Welbourn C.M., Lawson S.C., Cooper M. (1998) <u>Characterizing natural-color type IIb blue</u> <u>diamonds.</u> Gems & Gemology, Vol. 34, No. 4, pp. 246–268.

Moses T.M., Shigley J.E., McClure S.F., Koivula J.I., Van Daele M. (1999) Observations on GE-processed diamonds: a photographic record. Gems & Gemology, Vol. 35, No. 3, pp. 14–22.

Reinitz I.M., Johnson M.L., Hemphill T.S., Gilbertson A.M., Geurts R.H., Green B.D., Shigley J.E. (2001) <u>Modeling the appearance of</u> <u>the round brilliant cut diamond: An analysis of fire, and more about brilliance.</u> Gems & Gemology, Vol. 37, No. 3, pp. 174– 197.

Shigley J.E., Chapman J., Ellison R.K. (2001) <u>Discovery and mining of the Argyle diamond deposit, Australia.</u> Gems & Gemology, Vol. 37, No. 1, pp. 26–41.

Shigley J.E., Cook B.C., Laurs B.M., de Oliveira Bernardes M. (2001) <u>An update on "Paraíba" tourmaline from Brazil.</u>Gems & Gemology, Vol. 37, No. 4, pp. 260–276.

King J.M., Shigley J.E., Guhin S.S., Gelb T.H., Hall M. (2002) <u>Characterization and grading of natural-color pink diamonds.</u> Gems & Gemology, Vol. 38, No. 2, pp. 128–147.

Emmett J.L., Scarratt K., McClure S.F., Moses T., Douthit T.R., Hughes R., Novak S., Shigley J.E., Wang W., Bordelon O., Kane R.E. (2003) <u>Beryllium diffusion of ruby and sapphire.</u> Gems & Gemology, Vol. 39, No. 2, pp. 84–135.



AGA WEBINAR PROFESSIONAL DEVELOPMENT



Episode - no. 3

CHATBOX - NOTES AND URL LINKS

PROVIDED BY DR. JAMES SHIGLEY:

A complete and chronological list of every article referenced during his interview. ALL OF THESE ARTICLES ARE FREE TO READ/DOWNLOAD FROM GIA.edu

continued...

Moses T.M., Johnson M.L., Green B., Blodgett T., Cino K., Geurts R.H., Gilbertson A.M., Hemphill T.S., King J.M., Kornylak L., Reinitz I.M., Shigley J.E. (2004) <u>A foundation for grading the overall cut quality of round brilliant cut diamonds.</u> Gems & Gemology, Vol. 40, No. 3, pp. 202–228.

King J.M., Shigley J.E., Gelb T.H., Guhin G.S., Hall M., Wang W. (2005) <u>Characterization and grading of natural-color yellow</u> <u>diamonds</u>. Gems & Gemology, Vol. 41, No. 2, pp. 88–115.

King J.M., Geurts R.M., Gilbertson A.M., Shigley J.E. (2008) <u>Grading "D-to-Z" diamonds at the GIA Laboratory.</u> Gems & Gemology, Vol. 44, No. 4, pp. 296–321.

Geurts R.H., Reinitz I.M., Blodgett T., Gilbertson A.M. (2011) <u>GIA's symmetry grading boundaries for round brilliant cut</u> <u>diamonds.</u> Gems & Gemology, Vol. 47, No. 4, pp. 286–295.

Shirey S.B., Shigley J.E. (2013) <u>Recent advances in the understanding the geology of diamonds.</u> Gems & Gemology, Vol. 49, No. 4, pp. 199–222.

Shigley J.E., Shor R., Padua P., Breeding C.M., Shirey S.B., Ashbury D. (2016) <u>Mining diamonds in the Canadian Arctic: The</u> <u>Diavik Mine.</u> Gems & Gemology, Vol. 52, No. 2, pp. 104–131.

Svisero D.P., Shigley J.E., Weldon R. (2017) <u>Brazilian diamonds: A historical and recent perspective.</u> Gems & Gemology, Vol. 53, No. 1, pp. 2-33.

Breeding C.M., Eaton-Magaña S., Shigley J.E. (2018) <u>Natural-color green diamonds: A beautiful conundrum.</u> Gems & Gemology, Vol. 54, No. 1, pp. 2-27.

Eaton-Magaña S., Breeding C.M., Shigley J.E. (2018) <u>Natural-color blue, gray and violet diamonds: Allure of the deep.</u> Gems & Gemology, Vol. 54, No. 2, pp. 112-131.

Eaton-Magaña S., Ardon T., Smit K.V., Breeding C.M., Shigley J.E. (2018) <u>Natural-color pink, purple, red and brown diamonds:</u> <u>Band of many colors.</u> Gems & Gemology, Vol. 54, No. 4, pp. 352-377.

Eaton-Magaña S., Ardon T., Breeding C.M., Shigley J.E. (2019) <u>Natural-color Fancy White and Fancy Black diamonds: Where</u> <u>color and clarity converge.</u> Gems & Gemology, Vol. 55, No. 3, pp. 320-337.

Breeding C.M., Eaton-Magaña S., Shigley J.E. (2020)<u>Naturally colored yellow and orange gem diamonds: The nitrogen</u> <u>factor.</u> Gems & Gemology, Vol. 56, No. 2, pp. 194-219.

Eaton-Magaña S., Ardon T., Breeding C.M., Shigley J.E. (2020) <u>Natural color D-to-Z diamonds: A crystal clear perspective.</u> Gems & Gemology, Vol. 56, No. 3, pp. 318-335.