

05. The history of holography

Dennis Gabor, a Hungarian electrical engineer and physicist, is considered the founder of the holography. In 1948, he managed to create a two-dimensional hologram through a number of experimentations with a mercury arc light source. This meaningful invention was awarded with the Nobel Prize for Physics, in 1971, since his method couldn't be easily applied earlier due to lack of proper light source that would permit the capture of an hologram [1] [2] [3]. In 1958, the soviet physicist Yuri Denisyuk, took the technique a step further by inventing the homonymous method of holography. The holograms could be produced using a typical beam of white light or even sun light [1] [4]. In 1960, the American physicist, Theodore Maiman invented the laser (a device that amplified light by stimulated emission of radiation) while, in 1962, Emmet Leith and Juris Upatnieks used it in order to make the first laser transmission hologram [3] [5]. In 1968, Stephen Benton invented the rainbow hologram and in 1976 the first Museum of Holography was founded in New York [6]. In 1979, Steve McGrew develops an embossing techniques which is later used (as embossed holograms) on payment cards and Visa, due to the invention of 2D3D holograms, in 1982. The following years holograms are featured on front covers (1984, National Geographic) and are used for security reasons on a variety of products (1988, drinks and pharmaceutical products) as well as on bank notes (1989) and later on official papers (1995) [3].

References – Resources

1. The Free Dictionary by Farlex, Definition of holography, Retrieved from: <https://www.thefreedictionary.com/holography>
2. Encyclopedia Britannica, Entry: Holography, Written By: The Editors of Encyclopaedia Britannica, Retrieved from: <https://www.britannica.com/technology/holography>
3. International Hologram Manufacturers Association (IHMA), "History", About Holography section, Retrieved from: <https://www.ihma.org/history.aspx>
4. Hellenic Institute of Holography (HIH), "In Memoriam of Inventor Yuri Denisyuk, a dedication from his 'holographic friends'", Retrieved from: <http://www.hih.org.gr/en/institute/denisyuk.html>
5. Laser Inventor: Creator of the world's first laser, "About Theodore Maiman", Retrieved from: <http://www.laserinventor.com/bio.html>
6. MIT Museum, "Holography: Collection", Retrieved from: <https://mitmuseum.mit.edu/collection/holography>

HOLOMAKERS PROJECT

Motivating secondary school students towards STEM careers through hologram making and innovative virtual image processing practices with direct links to current research and laboratory practices

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Declaration

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