

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDIVIS, INC.
Petitioner

v.

NOVARAD CORP.
Patent Owner

US Patent No. 11,004,271

Inter Partes Review No. IPR2023-00042

DECLARATION OF PAMELA KEYL

Declaration of Pamela Keyl

1. I, Pamela Keyl, am a Knowledge Management Research Systems Analyst at the law firm McCarter & English, LLP.

2. I have over 40 years' experience in library sciences, including nearly 36 years as a reference librarian at McCarter & English, LLP, five years as an Adult Services Librarian at the Summit Public Library, Summit, New Jersey, and two years as Children's Services Librarian at the Monmouth County Library, Manalapan, New Jersey.

3. I hold a Master of Library Science degree from the Rutgers School of Communication and Information (1980) and a Bachelor of Arts degree from Cedar Crest College (1979).

4. Through my education and experience, I am familiar with the cataloging of books and periodicals and standard practices concerning the same.

5. In this Declaration, I provide further information about certain exhibits filed in the above referenced proceeding.

EX1009—*Chen*

6. EX1009, the *Chen* reference, is an article from the Journal of Biomedical Informatics titled "Development of a surgical navigation system based on augmented reality using an optical see-through head-mounted display." It bears the citation "Journal of Biomedical Informatics 55 (2015) 124-131." Based on my

experience with periodical notations, I understand this to indicate that this article was published in Volume 55 of this Journal in 2015, at pages 124-131.

7. I obtained the article shown at EX1009 through the website of ScienceDirect, a division of Elsevier, at the URL: <https://www.sciencedirect.com/science/article/pii/S1532046415000702?via%3Dihub>

8. ScienceDirect is a website that provides access to a large bibliographic database of scientific and medical publications of the Dutch publisher Elsevier. It hosts over 18 million pieces of content from more than 4,000 academic journals and 30,000 e-books of this publisher. See <https://en.wikipedia.org/wiki/ScienceDirect>

9. ScienceDirect was launched in 1997. *Id.*

10. ScienceDirect hosts 1.4 million articles that are “open access.” Articles published open access are peer reviewed and made available, either for free or at a price, for everyone to read, download, and reuse in line with the user license displayed on the article. See <https://www.sciencedirect.com/>

11. The article at EX1009 bears a copyright notice of “2015 Elsevier Inc. All rights reserved.” This appears both at the end of the Abstract on page 124, as well as at the bottom of page 124 (page 1 of EX1009).

12. The citation that appears at the top of the document, Volume 55, June 2015, Pages 124-131, further indicates that this Article appeared in the print version in Volume 55, which, according to ScienceDirect, was published in June 2015. See <https://www.sciencedirect.com/journal/journal-of-biomedical-informatics/issues>

13. Images of the print version that I reviewed archived at ScienceDirect show that it bears an ISSN number of 1532-0464 and show that the Chen article appears at pages 124-131 of this physical version.

14. On the face of EX1009, the “Article History” on the first page states that *Chen* was “Received 24 August 2014; Revised 20 March 2015; Accepted 9 April 2015; [and] Available online 13 April 2015.”

15. Finally, based on my research, I was able to determine that *Chen* was cited by at least seven other references (by authors other than those of *Chen*) by January 2017, including in the following:

- Girbacia T, Girbacia F, Duguleana M, Butila E. Augmented reality system for training robotic prostate biopsy needle guidance. In *The 10th International Conference on Virtual Learning*. 2015 Oct 31 (pp. 254-258).
- Huang Q, Chen S. High-quality intraoperative volume rendering in surgical navigation. In *2016 9th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI)*. 2016 Oct 15 (pp. 363-368). IEEE.

- Zhang X, Chen G, Liao H. High-quality see-through surgical guidance system using enhanced 3-D autostereoscopic augmented reality. *IEEE Transactions on Biomedical Engineering*. 2016 Nov 3;64(8):1815-25.
- Poh PS, Chhaya MP, Wunner FM, De-Juan-Pardo EM, Schilling AF, Schantz JT, Van Griensven M, Hutmacher DW. Polylactides in additive biomanufacturing. *Advanced Drug Delivery Reviews*. 2016 Dec 15;107:228-46.
- Kolodzey L, Grantcharov PD, Rivas H, Schijven MP, Grantcharov TP. Wearable technology in the operating room: a systematic review. *BMJ Innovations*. 2016 Dec 30:bmjinnov-2016.
- Mahmoud N, Grasa ÓG, Nicolau SA, Doignon C, Soler L, Marescaux J, Montiel JM. On-patient see-through augmented reality based on visual SLAM. *International journal of computer assisted radiology and surgery*. 2017 Jan;12:1-1.
- Shi Y, Lin L, Zhou C, Zhu M, Xie L, Chai G. A study of an assisting robot for mandible plastic surgery based on augmented reality. *Minimally Invasive Therapy & Allied Technologies*. 2017 Jan 2;26(1):23-30.

16. Based on this information and my more than 40 years of experience as a professional librarian, I am able to conclude that it was more likely than not that *Chen* at EX1009 was published and publically available online on or around April 13, 2015.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on the 10th Day of October, 2023.

/s/ Pamela Keyl
Pamela Keyl