

*Inter Partes Review of USPN 8,335,033
Declaration of Katherine Hall, Ph.D. (Exhibit 1003)*

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FINISAR CORPORATION
Petitioner

v.

THOMAS SWAN & CO. LTD.
Patent Owner

U.S. Patent No. 8,335,033

Inter Partes Review Case No. Unassigned

DECLARATION OF KATHERINE HALL, PH.D.

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I, Katherine Hall, hereby declare as follows.

I. OVERVIEW

1. I am over the age of eighteen (18) and otherwise competent to make this declaration.

2. I have been retained as an expert witness on behalf of Finisar Corporation for the above captioned *inter partes* review (IPR). I am being compensated for my time in connection with this IPR at my standard consulting rate, which is \$ 400 per hour. I understand that the petition for *inter partes* review involves U.S. Patent No. 8,335,033 (“the ’033 patent”), Ex. 1001. The ’033 patent is part of a family of patents that originated from UK Patent Application No. 0121308.1, filed on September 3, 2001. PCT Application No. PCT/GB02/04011 was then filed on September 2, 2002. U.S. Patent Application No. 12/710,913, filed February 23, 2010, is a continuation of application No. 11/978,258, filed October 29, 2007, now U.S. Patent 8,809,683, which is a continuation of application No. 11/515,389, filed on Sep. 1, 2006, now U.S. Patent No. 7,612,930, which is a division of application No. 10/487,810 filed on September 10, 2004, now U.S. Patent No. 7,145,710, upon attaining national stage in the United States. I further understand that, according to USPTO records, the ’033 patent is currently assigned to Thomas Swan & Co. Ltd. (“Thomas Swan”).

3. In preparing this Declaration, I have reviewed the '033 patent and considered each of the documents cited herein, in light of general knowledge in the art. In formulating my opinions, I have relied upon my experience in the relevant art. In formulating my opinions, I have also considered the viewpoint of a person of ordinary skill in the art (i.e., a person of ordinary skill in the field of optical communications, defined further below in Section IV) prior to September 3, 2001. I am familiar with the technology at issue as of the September 3, 2001 filing date of the '033 patent. I am also familiar with the level of a person of ordinary skill in the art with respect to the technology at issue as of the September 3, 2001 filing date.

II. MY BACKGROUND AND QUALIFICATIONS

4. I am an expert in the field of optical communications, high-speed optical switches, and free space optics, and I have been an expert in this field since prior to 2001. Throughout the remainder of this declaration, I will refer to the field of optical communications, high speed optical switches, and free space optics as the relevant field or the relevant art. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art. A copy of my current curriculum vitae is provided as Ex. 1004, and it provides a comprehensive description of my academic, employment, and publication history.

5. As an expert in the field of optical communications, high-speed optical switches, and free space optics since prior to 2001, I am qualified to provide an opinion as to what a person of ordinary skill in the art would have known or concluded as of 2001. Since 1984, I have accumulated significant training and experience in the field and I have extensive knowledge and experience relating to techniques and reasoning used in the field.

6. I received a B.A. degree in Physics from Wellesley College in 1984. After working in the Lightwave Systems Research Department at AT&T Bell Laboratories from 1984-1987, I attended graduate school at the Massachusetts Institute of Technology where I received a M.S. degree in Electrical Engineering and Computer Science in 1990 and a Ph.D. in Electrical Engineering and Computer Science in 1993. During that time, my post-baccalaureate and doctoral work focused on the development of optical fiber communication systems, short pulse lasers, novel optical spectroscopic techniques and identifying, characterizing, and utilizing non-linear effects in optical fibers and semiconductor amplifiers.

7. In 1993, I went to work in the Advanced Networks Group at M.I.T. Lincoln Laboratory, where I led an effort to develop optical time division multiplexing (OTDM) technologies including high bit rate data sources, clocking techniques and processors based on high speed all optical switches. I also worked on terrestrial and space-based wavelength division multiplexing (WDM)

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