UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

In Re: U.S. Patent No. 7,916,781: Attorney Docket No. 082944.0102

Inventor: Jin, Hui, *et al.*   :

Filed: June 30, 2008   :

Issued: March 29, 2011   :   IPR No. Unassigned

Assignee: California Institute of Technology

Title: Serial Concatenation of Interleaved Convolutional Codes Forming Turbo-Like Codes

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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Submitted Electronically via the Patent Review Processing System

DECLARATION OF HENRY D. PFISTER

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I, Henry D. Pfister, declare as follows:

1.   I make this declaration based upon my own personal knowledge and, if called upon to testify, would testify competently to the matters contained herein.

2.   I have been asked to provide technical assistance in the *inter partes* review of U.S. Patent No. 7,916,781 ("the '781 Patent").[1] I have also reviewed and analyzed U.S. Patent Nos. 7,116,710 ("the '710 Patent");[2] 7,421,032 ("'032 patent");[3] and 8,284,833 ("the '833 Patent").[4]

3.   This declaration is a statement of my opinions on issues related to the patentability of claims 1, 2, 3, 4, 5, 6, 7, 13, 14, 15, 16, and 19 of the '781 Patent.

I.   Background and Qualifications

4.   My qualifications are stated more fully in my curriculum vitae. Here I provide a brief summary of my qualifications. I was an active contributor and collaborator in the community that included the inventors

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[1] Ex. 1006.

[2] Ex. 1001.

[3] Ex. 1004.

[4] Ex. 1008.

and subject matter of the '710; '032; '781; and '833 patents before and after May 2000. From 1997-2003, I was a graduate student at the University of California, San Diego (UCSD) studying electrical engineering. During 1998-1999, I took my first sequence of courses on error-correcting codes and my course project for the 1999 winter quarter was on repeat-accumulate codes. This work led to my first conference paper, which was entitled "The serial concatenation of rate-1 codes through uniform random interleavers," was presented at the Allerton conference in 1999 and may be referred to herein as "Pfister & Siegel."[5] This paper generalized the idea of repeat-accumulate codes to include arbitrary outer codes and multiple inner accumulate codes. I continued my studies and eventually became a professor. Now, I am an associate professor in the Department of Electrical and Computer Engineering at Duke University. Before this appointment, I taught in the Department of Electrical and Computer Engineering of Texas A&M University, College Station from 2006-2014. I received my Ph.D. in electrical engineering from the University of California, San Diego (UCSD) in 2003 and then spent two years in R&D at Qualcomm, Inc., and one year as a post-doctoral researcher at the Swiss Federal Institute of Technology, Lausanne (EPFL). I am a co-author on more than 60 peer-reviewed

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[5] Ex. 1057.

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