

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ACTIVISION BLIZZARD, INC.,
ELECTRONIC ARTS INC.,
TAKE-TWO INTERACTIVE SOFTWARE, INC.,
2K SPORTS, INC., and
ROCKSTAR GAMES, INC.,
Petitioner

v.

ACCELERATION BAY, LLC,
Patent Owner

Case IPR2016-00747
Patent 6,732,147

**DECLARATION OF DR. HARRY BIMS
IN SUPPORT OF PATENT OWNER'S RESPONSE**

I, Harry Bims, Ph.D., declare as follows:

I. QUALIFICATIONS

1. I make this Declaration based upon my own personal knowledge, information, and belief, and I would and could competently testify to these matters set forth if called upon to do so.

2. I received a Bachelor of Science (“BS”) degree in Computer and Systems Engineering from Rensselaer Polytechnic Institute in 1985.

3. I received a Masters of Science (“MS”) degree in Electrical Engineering from Stanford University in 1989.

4. I received a Doctor of Philosophy (“PhD”) degree in Electrical Engineering from Stanford University in 1993. My dissertation was entitled, “Trellis Coding for Multi-Level, Partial-Response Continuous Phase Modulation with Precoding.”

5. I was the Founder, Chief Executive Officer, and Chief Technical Officer at AirFlow Networks, Inc. LLC from December of 2001 to May 2004. While there, we developed 802.11 access points that provided wireless internet access in a campus deployment. As part of the access point solution, we incorporated network security for mobile devices connected to the network in the form of VPN and firewall technology, as well as encryption technology that was part of the 802.11 standard. The United States Patent and Trademark office issued

AirFlow Networks, Inc. LLC fifteen patents, all of which relate to wireless network infrastructure. In 2001, I was an Entrepreneur in Residence at Bay Partners LLC, where I was a technology expert on a range of wireless and networking subjects.

6. During the 1998 timeframe, I was the project lead for a network security project in Glenayre Technologies' Wireless Access Group. This project was to develop and deploy a software encryption module for use by government agencies as a secure e-mail solution. As part of this project, a networking protocol at the application layer was developed for sending and receiving encrypted e-mail messages.

7. During the 2000 timeframe, I was a Director of Engineering at Symmetry Communications, where we developed core network equipment for the digital cellular market. This equipment included networking routers that provided network security for data communications to and from mobile handsets.

8. The details of my work experience and research are summarized in my CV attached as Appendix A of this declaration.

9. I have reviewed in detail U.S. Patent No. 6,732,147 (Ex. 1001, "the '147 Patent"); all of the files in the record for *Inter Partes* Review of the '147 Patent filed in Case No. IPR2016-00747; Sony's PlayStation 3 and 4 running the online PlayStation game, *Destiny*; "Bungie Weekly Update Archive" Webpage

(Exhibit 2023); “Help: How to Join or Create a Fireteam | Bungie.net” Webpage (Exhibit 2024); “Matchmaking Updates > News | Bungie.net” Webpage (Exhibit 2025); “Solved: Port Numbers, which do I need to open” Webpage (Exhibit 2026); “Test Internet Connection | Playstation4 User’s Guide” Webpage (Exhibit 2027); “The Matchmaking Technology of Destiny” Webpage (Exhibit 2028); “Shared World Shooter: Destiny’s Networked Mission Architecture” Presentation (Exhibit 2029); Box Art (Exhibit 2030); Full size Destiny box cover (Exhibit 2031); “Voice Chat [Beta] in Destiny > News | Bungie.net” Webpage (Exhibit 2032); YouTube Screenshot for Destiny (Exhibit 2033); YouTube Screenshot for Destiny (Exhibit 2034); YouTube Screenshot for Destiny (Exhibit 2035); YouTube Screenshot (Exhibit 2035); YouTube Screenshot (Exhibit 2036); YouTube Screenshot (Exhibit 2037); the Declaration of Dr. Michael Goodrich (Exhibit 2003).

10. I understand that I am submitting a declaration in connection with the above-referenced *Inter Partes* review (“IPR”) proceeding involving the ’147 Patent.

II. SCOPE OF ASSIGNMENT AND APPROACH

11. I have been retained as an expert on behalf of Patent Owner, Acceleration Bay, LLC. (“Acceleration Bay”), to provide information and opinions to the Patent Trial and Appeal Board (“the Board”) to assist in the determination of the validity of certain patent claims of the ’147 Patent for which the Board has

instituted an IPR proceeding. I understand that the Board has instituted *inter partes* review based on claims 6–10 of the '147 Patent on the grounds of obviousness over Shoubridge, Denes, Rufino, and Todd. Specifically, counsel for Acceleration Bay asked me to provide opinions regarding the validity of the claims based on secondary considerations of non-obviousness.

III. PERSON HAVING ORDINARY SKILL IN THE ART (PHOSITA)

12. Counsel has informed me, and I understand, that the “person having ordinary skill in the art” (“PHOSITA”) is a hypothetical person who is presumed to be familiar with the relevant scientific field and its literature at the time of the invention. This hypothetical person is also a person of ordinary creativity capable of understanding the scientific principles applicable to the pertinent field.

13. Counsel has informed me, and I understand, that the level of ordinary skill in the art may be determined by reference to certain factors, including (1) the type of problems encountered in the art, (2) prior art solutions to those problems, (3) the rapidity with which innovations are made, (4) the sophistication of the technology, and (5) the educational level of active workers in the field. I further understand that the face of the '147 Patent claims a priority date of July 31, 2000.

14. It is my opinion that the person of ordinary skill in the art in the field of the '147 Patent would have been someone with a bachelor's degree in computer

science or related field, and either (1) two or more years of industry experience and/or (2) an advanced degree in computer science or related field.

15. Based on my training and experience, I am (and was as of July 2000) a person having greater than ordinary skill in the relevant art, which permits me to give an opinion about the qualifications of one having ordinary skill at the time of the invention.

16. I note that Dr. Karger opines that a person having ordinary skill in the art is as follows:

In my opinion, a POSITA at the time of the alleged inventions claimed by the '147 and '069 patents would have a minimum of: (i) a bachelor's degree in computer science, computer engineering, applied mathematics, or a related field of study; and (ii) four or more years of industry experience relating to networking protocols or network topologies. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

Karger Decl. at ¶19.

17. My opinions stated in this declaration would be the same if rendered from the perspective of a person of ordinary skill in the art as set out by Dr. Karger.

IV. CLAIM CONSTRUCTIONS

18. Acceleration Bay’s counsel informed me and I understand that claims must be “given their broadest reasonable interpretation consistent with the specification” in inter partes review. The broadest reasonable interpretation does not mean the broadest possible interpretation. Instead, the meaning given to a claim term must be consistent with the use of the claim term in the specification and drawings. Thus, even under the broadest reasonable interpretation, the board’s construction cannot be divorced from the specification and the record evidence, and must be consistent with the one that those skilled in the art would reach.

19. I reviewed the claim constructions that Dr. Michael Goodrich provided in his declaration, attached to the Patent Owner Response as Exhibit 2003, and it is my opinion that a PHOSITA would adopt the same claim constructions, which are consistent with the broadest reasonable interpretation of the ‘147 Patent. Goodrich Decl. at ¶¶ 45–56.

A. “healing a disconnection of a first computer from a second computer”

20. In my opinion, a PHOSITA would understand the term “healing a disconnection of a first computer from a second computer” is properly construed in the context of the ‘147 Patent as “connecting a first computer to another computer in order to maintain an m-regular network after the second computer has involuntarily been disconnected.”

21. The specification supports this construction. The ‘147 Patent discloses that a computer connected to a broadcast channel can leave in a planned or unplanned manner. ‘147 Patent at 2:59-63, 8:66-9:51; Figs. 5A, 5B. “[H]ealing a disconnection of a first computer from a second computer” is shown in Figure 5B of the ‘147 Patent, which demonstrates that this refers to the situation where a computer leaves in an unplanned manner.

B. “broadcast channel”

22. In my opinion, a PHOSITA would understand the term “broadcast channel” is properly construed as a “logical channel that overlays an underlying point-to-point communications network.”

23. The specification of the ‘147 Patent supports this construction. *See* ‘147 Patent at 4:5-24 (discussing the broadcast channel as an overlay over the network layer), 4:32-36 (describing sending messages using the broadcast channel).

C. “connected/connection”

24. In my opinion, a PHOSITA would understand the term “connected” as “having a connection,” and the term “connection” to mean “an edge between two application programs connected to a logical broadcast channel that overlays an underlying network.”

25. The specification of the ‘147 Patent supports these constructions. Specifically, the specification of the ‘147 Patent explains that the term “connected” refers to the edge connecting participants. ‘147 Patent 4:51–53 (“each of the edges represents an ‘edge’ connection between two computers of the broadcast channel.”); Fig. 1. Further the specification identifies that application programs interface with a broadcaster component to connect to the broadcast channel. The broadcaster component may be included as part of the application program process. ‘147 Patent at 15:15-47.

V. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

26. Acceleration Bay’s counsel informed me and I understand that evidence of licensing, commercial success, praise, and copying, when there is a nexus between the claimed invention and commercial success, are a few of the factors that support non-obviousness of the patented invention. Otherwise, had the invention been obvious to persons skilled in the art, it would have been successfully brought to market sooner given the market demand.

VI. LICENSING AND COMMERCIAL SUCCESS

27. I have been informed and I understand that a prima facie case of nexus is made when the patentee shows both (1) that the product is a commercial success and (2) that the commercially successful product is the invention disclosed and claimed in the patent. Based on my review of the license between Boeing and

30. As such, a successful licensing program based on the patented invention described in the '147 Patent demonstrates that the '147 Patent was not obvious.

31. Further, Sony's commercial success based on the '147 Patent is shown in the SEC Filings for the fiscal year ending in March 31, 2008 (Exhibit 2022). Sony's Game division sales increased by 267.5 billion yen. Specifically, Sony's hardware unit sales of PlayStation 3 were 9.24 million units, was an increase of 5.63 million units sold over the previous year. It is my opinion that the increase in sales were due in part because of Sony's license to the '147 Patent. These sales are indicative of the commercial success of the inventions disclosed in the '147 Patent because Sony has utilized the invention in products that have been commercially successful. As such, it is my opinion that the '147 Patent is not obvious due to licensing and commercial success.

VII. PRAISE

32. Counsel has informed me and I understand that the number of forward citations to a patent is often used as a measure of a patent's significance. The citation of the '147 Patent by inventors of other patents constitutes praise of the inventions disclosed in the '147 Patent. Exhibit 2020 is a document that shows 9 patents that cite to the '147 Patent from companies such as Sony Computer Entertainment Inc. and Samsung Electronics Co., Ltd. Based on my review of the

forward citations of the ‘147 Patent, it is my opinion that the ‘147 Patent describes the process for disconnecting a node, whether it is planned or unplanned, from a broadcast channel.

33. Further, it is my opinion that the citation of the ‘147 Patent by companies in the gaming industry demonstrates that the gaming industry appreciates the significance of the invention described in the ‘147 Patent.

34. Therefore, it is my opinion that the ‘147 Patent was not obvious because others have praised the invention disclosed in the ‘147 Patent.

VIII. LONG-FELT BUT UNRESOLVED NEED, RECOGNITION OF A PROBLEM AND FAILURE BY OTHERS

35. Counsel has informed me and I understand that a long-felt but unmet need for an invention supports the non-obviousness of the invention. If the inventions under consideration were obvious, the long-felt need would have been met before the time of the inventions.

36. I have reviewed the Boeing Invention Disclosure Form and the ‘147 Patent, the declaration of Virgil Bourassa, a co-inventor of the ‘147 Patent, and it is my opinion that the inventors had recognized a problem. Exhibit 2006 (Mr. Bourassa’s Declaration) at ¶¶ 3–7; Exhibit 2008 (Invention Disclosure Form). They realized that the technologies that were available could not support a high number of network participants without the risk of bottlenecking or even the complete failure of an entire network if a server failed. Specifically, the ‘147

Patent addresses the problem of dealing with planned and unplanned disconnections from an m-regular network. In particular, they recognized a solution to maintain an m-regular network. *See generally* ‘147 Patent at 8:65-11:39.

37. Accordingly, in my opinion, a long-felt but unmet need for a network that could handle a large number of users across the country with high reliability and low latency, such as that disclosed in the ‘147 Patent, existed at the time of the invention. In particular, Boeing recognized the need for a solution that would support collaborative sharing of information simultaneously between a large number of wide-area network computers without causing significant delays in the sharing of information or risking the failure of the entire network if a participant was disconnected or a server failed.

38. Based on Mr. Bourassa’s declaration, it is my opinion that Boeing solved a long felt need as the systems at the time did not support the collaboration of many participants, nor did they handle planned and unplanned disconnections in a reliable manner. Bourassa’s Declaration at ¶¶ 3–7. None of the alternate technology available would have been capable of providing communications for a large number of network participants without running into the issues described above. For example, multicast networking protocols would have required the use of a special type of router, which would have taken years or even decades to

accommodate the problems the invention described in the ‘147 Patent was able to address.

39. In my opinion, based on the Invention Disclosure Form (Exhibit 2008), which shows that the date the invention was conceived on November 1996 and the date it was satisfactorily tested as September 16, 1999, the length of time it actually took—3 years—along with the lack of capabilities of the prior art, demonstrate that the invention described in the ‘147 Patent was not obvious, and supported a long-felt need because they were required to invent the system described in the ‘147 Patent—methods and systems for disconnecting a node from a broadcast channel—in order to create a robust network of participants that could join and leave the network without causing any communications failure. *See* Ex. 2008 (Invention Disclosure Form) at 1.

40. It is also my opinion that failure by others supports that the patented invention was not obvious. As described above, the availability of the technology at the time demonstrates that others could not solve the problem of allowing for peer-to-peer communications in a wide area that would perform in a robust way.

IX. UNEXPECTEDLY SUPERIOR RESULTS

41. Counsel informed me and I understand that unexpected results are other indicators that support the non-obviousness of the inventions. I understand that it took three years from the conception of the invention for the inventors to

reduce it to practice in [REDACTED] and the [REDACTED] programs at Boeing. Ex. 2008 (Invention Disclosure Form); *see also* Bourassa Decl. at ¶¶4 – 39.

42. The fact that it took them three years to successfully create the invention described in the ‘147 Patent—namely, a network that can support participants interacting and communicating with each other by sending data received from neighboring players to other neighboring players—also demonstrates that the ‘147 Patent was not obvious.

43. Based on these reasons, it is my opinion that the ‘147 Patent is not obvious because it yielded unexpected results.

DECLARATION

I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed in Palo Alto, CA on December 12, 2016.

A handwritten signature in black ink, appearing to read "Harry Bims", with a long horizontal flourish extending to the right.

Harry V. Bims, Ph.D.

APPENDIX A

Dr. Harry V. Bims
1314 Chilco Street
Menlo Park, CA 94025
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650-283-4174

PROFESSIONAL SUMMARY

Harry Bims, PhD, EE, provides expert witness support services for telecommunications-related intellectual property litigation. These services include deposition and court testimony, expert reports, and infringement research, for patent, copyright, and trade secret litigation matters. He has 17+ years of telecommunications industry experience, and holds eighteen US patents in network architecture and chip design for wireless communications.

EMPLOYMENT HISTORY

12/2001 - 05/2004 AirFlow Networks, Inc. LLC • Sunnyvale, California

Position: *CEO/CTO & Founder*

As the sole founder of the company, created the original business plan, raised venture capital, and hired the core engineering team. Grew the company to 32 people and shipped products for revenue in the US and overseas. Fifteen patents on the core technology have issued. These patents, which relate to wireless network infrastructure based on the 802.11 specification, have been sold to Broadcom.

03/2001 - 12/2001 Bay Partners LLC • Cupertino, California

Position: *Entrepreneur in Residence*

Reported to the partners of this VC firm as a technology expert on a range of wireless and networking subjects. Reviewed business plans and participated in due diligence activities related to several startups seeking funding. Developed a business plan for a startup that builds network infrastructure for 802.11 enterprise networks.

09/1999 - 03/2001 Symmetry Communications Systems LLC • San Jose, California

Position: *Director, Software Architecture*

Reporting to the CEO, responsible for the software architecture of their core

SGSN and GGSN products for the GPRS market. Formulated a software technology roadmap, showing the evolution from 2.5G to 3G SGSN and GGSN products. Management responsibility for Firmware, Hardware, Performance, and Systems Engineering Groups. Provided management support of early field trials of the system on a global basis.

07/1999 - 09/1999 **T-SPAN Systems Corporation LLC • Palo Alto, California**

Position: *Member of Technical Staff*

Designed a wireless home LAN protocol for the company. Also designed and built a PC-based platform to demonstrate their technology. Company is now publicly traded as Atheros Communications.

07/1992 - 12/1998 **Glenayre Technologies-Wireless Access Group • San Jose, California**

Position: *Member of Technical Staff; Sr. Member of Technical Staff; Manager of NOC Systems*

Employee #6 at the company, which was acquired by Glenayre Technologies, Nov 1997. Designed and built a 4-channel ReFLEX50 pager demonstration in 1 week. Participated in early field trials and feasibility studies, culminating in a Pioneer's Preference license award from the FCC to SkyTel Corporation for Narrowband PCS development.

Invented, designed, and built from concept through full implementation, a patented two-way pager test system for the ReFLEX50 and ReFLEX25 protocols. This system was used throughout company operations for performance testing of the ReFLEX pager designs from Wireless Access, and Motorola. Over 16 systems were deployed around the country for manufacturing tests, engineering protocol tests, antenna tests, and pager repair tests.

The project required technical skills in PC hardware design, C++, object-oriented programming, signal processing techniques, NT device driver development, Win32 user interface development, real-time, multi-threaded control, and proficiency with wireless communications lab equipment. Three patents have been issued based on technical inventions in this capacity.

Co-developed a wireless application protocol for sending and receiving encrypted email messages over the paging channel. Led the project team that deployed a software encryption module based on this protocol for government agencies.

Bims Laboratories, LLC Work History

6/2009 – 7/2009 **Eastman Kodak Company • Rochester, NY**

Position: *Technology Consultant*

Providing technology assessment on certain wireless communication patents.

10/2009 – Present **IEEE 802.16 Working Group**

Position: *Task Group Secretary, Task Group Vice-Chair, Task Group Chair, Working Group Vice-Chair & Secretary*

Served in several leadership capacities within this group that is working on improvements to the IEEE 802.16 standard, otherwise known as WiMAX.

2/2014 – Present **Access Network Protocol Development**

Position: *Technical Lead Developer*

Developing a C++14-based DES of SDRs for wired and wireless network protocols, that includes IMT-2020 channel models. Implementations of the IEEE 802 and LTE protocol families, plus digital cable, Bluetooth, DSL, frame relay and many more are managed nodes for smart grid and vertical IoT applications.

Protocomm Systems, LLC Consulting History

04/1999–07/1999 **Gigabit Wireless, Inc. • San Jose, California**

Position: *Technical Leader*

Technical leader for the Wireless MAC design group. Responsible for comparative analysis of competing wireless MAC protocol standards. Responsible for the creation of a proprietary MAC protocol specification document, simulation of the protocol, and implementation in a prototype. Participated in early 802.16 protocol standards. This company was acquired by Intel Corporation.

3/2007 – 10/2009 **Apple, Inc. • Cupertino, CA**

Position: *Technology Consultant*

Participating in IEEE 802.16 standards meetings as an affiliate of the client.

7/2003 – Present **Various expert witness engagements (see below)**

Position: *Technical Expert Witness*

Testified as a wireless technology expert in patent infringement cases. For a list of such cases, see below.

Technical Expert Witness Experience

12/2015 – Present **Client: Kramer Levin Naftalis & Frankel, LLP (representing Acceleration Bay, LLC.)**

Case: Activision Blizzard, Inc., Electronic Arts Inc., Take-Two Interactive Software, Inc., 2K Sports, Inc., Rockstar Games, Inc., and Bungie, Inc., Petitioner v. Acceleration Bay, LLC, Patent Owner.

Case IPR2015-01951, Case IPR2015-01953, Case IPR2015-01964, Case IPR2015-01970, Case IPR2015-01996

Location: UNITED STATES PATENT AND TRADEMARK OFFICE

Testifying expert in this IPR patent case involving internet data broadcasting.

Expert Declaration:

July 17, 2016 Declaration ISO Patent Owner's Response – Patent 6,714,966;
Secondary Considerations of Non-Obviousness

July 17, 2016 Declaration ISO Patent Owner's Response – Patent 6,829,634;
Secondary Considerations of Non-Obviousness

July 17, 2016 Declaration ISO Patent Owner's Response – Patent 6,701,344;
Secondary Considerations of Non-Obviousness

Attorneys: For Plaintiff: Kramer Levin, Naftalis, & Frankel LLP

For Defendant: DLA Piper

Status: Ongoing

12/2015 – Present **Client: Kramer Levin Naftalis & Frankel, LLP (representing Finjan, Inc.)**

Case: Finjan, Inc. v. Sophos, Inc.

Civil Action No. 3:14-cv-01197-WHO

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA SAN FRANCISCO DIVISION

As a testifying expert, provided a technology tutorial in this patent case involving internet security technology.

Expert Declaration:

December 21, 2015 Tutorial expert report on security technology.

Videotaped Deposition:

February 22, 2016

Attorneys: For Plaintiff: Kramer Levin, Naftalis, & Frankel LLP

For Defendant: DLA Piper

Status: Case settled

9/2015 – Present **Client: Kramer Levin Naftalis & Frankel, LLP (representing Finjan, Inc.)**

Case: Finjan, Inc. v. Proofpoint, Inc. and Armorize Technologies, Inc.

Civil Action No. 13:cv-03999-BLF

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA SAN JOSE DIVISION

As a testifying expert, provided an opening technology tutorial at trial in this patent case involving internet security technology.

Expert Declaration:

October 7, 2015 Tutorial expert report on security technology.

Videotaped Deposition:

November 6, 2015

Attorneys: For Plaintiff: Kramer Levin, Naftalis, & Frankel LLP

For Defendant: Quinn Emanuel

Status: Jury award.

10/2014 – 2/2015 **Client: Alston & Bird (representing Microsoft Corporation)**

Case: Microsoft Corporation. v. IPR Licensing, Inc.

Location: INTER PARTES REVIEW BEFORE THE PATENT TRIAL AND APPEAL BOARD

Testifying expert in this IPR proceeding involving cellular technology.

Expert Declarations:

10-16-14 Supplemental Declaration ISO Petition for Inter Partes Review of U.
S. Patent No. 8,380,244

Attorneys: For Plaintiff: Alston & Bird LLP

For Defendant:

Status: Case settled

9/2014 – 4/2015 **Client: Reed & Scardino, LLP (representing Mobile Telecommunications Technologies, LLC)**

Case: Mobile Telecommunications Technologies LLC v. Amazon.com, Inc.

Civil Action No. 2:13-cv-883-JRG-RSP

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF
TEXAS MARSHALL DIVISION

Testifying expert in this patent case involving package delivery notification
systems.

Expert Reports:

2-10-15 Expert Report on Infringement

2-24-15 Supplemental Expert Report on Infringement

Videotaped Deposition:

2-25-15

Declaration:

3-20-15 Declaration ISO Response to Opposition Motion

Attorneys: For Plaintiff: Reed & Scardino LLP

For Defendant: Greenberg Traurig LLP

Status: Case settled

5/2014 – 7/2015 **Client: Kramer Levin Naftalis & Frankel, LLP (representing Finjan, Inc.)**

Case: Finjan, Inc. v. Blue Coat Systems, Inc.

Civil Action No. 3:13-cv-03999-BLF

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF

CALIFORNIA SAN JOSE DIVISION

As a testifying expert, provided an opening technology tutorial at trial in this patent case involving internet security technology.

Expert Declaration:

January 12, 2015 Tutorial expert report on security technology.

Videotaped Deposition:

March 18, 2015

Live Jury Trial Testimony: July 20, 2015.

Live Bench Trial on Laches Testimony: September 8, 2015

Attorneys: For Plaintiff: Kramer Levin, Naftalis, & Frankel LLP

For Defendant: Wilson Sonsini

Status: Jury award.

2/2013 – Present **Client: Reed & Scardino, LLP (representing Mobile Telecommunications Technologies, LLC)**

Case: Mobile Telecommunications Technologies LLC v. BlackBerry Corporation.

Civil Action No. 3:12-cv-1652-M

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF TEXAS DALLAS DIVISION

Testifying expert in this patent case involving package delivery notification systems.

Expert Reports:

9-3-15 Expert Report on Infringement

Videotaped Depositions:

Attorneys: For Plaintiff: Baker Botts, LLP

For Defendant: Reed & Scardino LLP

Status: Jury verdict of non-infringement.

4/2014 – Present **Client: Reed & Scardino, LLP (representing Mobile Telecommunications Technologies, LLC)**

Case: Mobile Telecommunications Technologies LLC v. United Parcel Service, Inc.

Civil Action No. 1:12-cv-03222-AT

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF
GEORGIA ATLANTA DIVISION

Testifying expert in this patent case involving package delivery notification
systems.

Expert Reports:

7-3-14 Opening Expert Report regarding Infringement

8-11-14 Rebuttal Expert Report regarding Infringement

Videotaped Depositions:

10-7-14

Declaration:

11-24-14 Declaration ISO Response to MSJ

Attorneys: For Plaintiff: Reed & Scardino LLP

For Defendant: Alston & Bird LLP

Status: Case settled.

1/2014 – Present **Client: Fish & Richardson P.C. (representing Samsung)**

Case: Telefonaktiebolaget LM Ericsson v Samsung Electronics Co., Ltd, et. al.

Civil Action No. 6:12-cv-894

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF
TEXAS

Testifying expert in this patent case involving satellite radio technology.

Expert Declarations and Reports:

None.

Attorneys: For Plaintiff:

For Defendant: Fish & Richardson P.C.

Status: Case settled.

12/2013 – **Client: Brinks Gilson & Lione LLP (representing ZTE Corp, and ZTE**
09/2015 **(USA), Inc.)**

Case: ZTE Corporation and ZTE (USA) Inc. v. InterDigital Technology Corporation

Location: INTER PARTES REVIEW BEFORE THE PATENT TRIAL AND APPEAL BOARD

Testifying expert in this IPR proceeding involving cellular technology.

Expert Declarations:

3-21-14 Declaration in support of the Petition for Inter Partes Review of U. S. Patent No. 8,380,244

Attorneys: For Plaintiff: Brinks Gilson & Lione

For Defendant: Latham & Watkins, LLP

Status: IPR Hearing before PTAB: All disputed claims are unpatentable.

12/2013 – 4/2014 **Client: Kramer Levin Naftalis & Frankel LLP (representing Sirius XM Radio Inc.)**

Case: Catch a Wave Technologies, Inc. v. Sirius XM Radio Inc.

Case No. 3:12-cv-05791-WHA

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA SAN FRANCISCO DIVISION

Testifying expert in this patent case involving satellite radio systems.

Expert Reports:

2-14-2014 Expert Report regarding non-infringement

Attorneys: For Plaintiff: Freitas Tseng & Kaufman LLP

For Defendant: Kramer Levin LLP

Status: Case settled

2/2013 – 10/2013 **Client: Seyfarth Shaw LLP (representing Motorola Mobility LLC)**

Case: University of Florida Research Foundation, Inc. and Rapid mobile Technologies, Inc. v. Motorola Mobility LLC

Civil Action No. 13-cv-61120-KMM-EGT

Location: UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF FLORIDA

Testifying expert in this employment law case involving mobile device testing systems.

Expert Reports:

3-1-13 Expert Report regarding Non-Infringement

4-1-13 Declaration in Opposition to Plaintiff's MSJ

Attorneys: For Plaintiff: Meltzer & Mathis
For Defendant: Seyfarth Shaw LLP
Status: Case settled

9/2013 – 1/2014 **Client: Reed & Scardino, LLP (representing Mobile Telecommunications Technologies, LLC)**

Case: Mobile Telecommunications Technologies, LLC v Clearwire Corporation
Civil Action No. 2:12-CV-308

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

Testifying expert in this patent case involving wireless networking signals.

Expert Reports:

11-11-13 Rebuttal report regarding validity

Videotaped Depositions:

12-5-13

Declarations:

1-23-14 Declaration before the Patent Trial and Appeal Board in Case IPR2013-00306

Attorneys: For Plaintiff: Reed & Scardino LLP
For Defendant: Shook, Hardy & Bacon, LLP
Status: Case settled

10/2013 – 5/2015 **Client: Foley & Lardner, LLP (representing Motorola Mobility, LLC)**

Case: University of Florida Research Foundation Inc., and Rapid Mobile Technologies, Inc. v Motorola Mobility, LLC.

Case No. 13-cv-61120-KMM-EGT

Location: UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF FLORIDA FORT LAUDERDALE DIVISION

Testifying expert in this patent case involving mobile device testing systems.

Expert Reports:

None.

Declarations:

11-21-13 Declaration ISO Motorola's Responsive Claim Construction Brief

Attorneys: For Plaintiff: Meltzer & Meksraitis

For Defendant: Foley & Lardner LLP

Status: Case settled

7/2013 – 6/2015 **Client: WilmerHale (representing Broadcom)**

Case: Inter Partes Review of US Patent 6,424,625; 6,772,215; and 6,466,568 owned by Ericsson

Docket No. 0111168-0240

Location: UNITED STATES PATENT AND TRADEMARK OFFICE

Testifying expert in this Inter Partes Review regarding ARQ mechanisms.

Expert Declarations:

9-19-13 Declaration regarding US Patent 6,772,215

9-19-13 Declaration regarding US Patent 6,466,568

9-29-13 Declaration regarding US Patent 6,424,625

Videotaped Deposition:

5-29-14, and 5-30-14

Attorneys: For Plaintiff: Meltzer & Mathis

For Defendant: Wilmer Cutler Pickering Hale and Dorr LLP

Status: Case settled

4/2013 – 4/2015 **Client: Kilpatrick Townsend & Stockton LLP (representing Google Inc. and Motorola Mobility LLC)**

Case: Fujifilm Corporation v. Motorola Mobility LLC

Case No. 3:12-cv-03587 WHO

Location: UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA SAN FRANCISCO DIVISION

Testifying expert in this patent case involving smartphone technology.

Expert Declarations:

4-23-14 Declaration ISO Motion for Protective Order

12-9-14 Declaration ISO MSJ

Expert Reports:

10-3-14 Opening Expert Report Regarding Invalidity

10-31-14 Rebuttal Expert Report on non-infringement

10-31-14 Appendix A to Rebuttal Report of Dr. Alan Bovik

Videotaped Deposition:

11-19-14, and 11-20-14

Trial Testimony:

April 28, 2015 Non-infringement and invalidity of '970 Patent

Attorneys: For Plaintiff: Morgan, Lewis & Bockius LLP

For Defendant: Kilpatrick Townsend & Stockton LLP

Status: Jury verdict: '970 Patent claims not infringed and invalid.

8/2012 – 4/2013 **Client: Paul Hastings LLP (representing Apple, Inc.)**

Case: SmartPhone Technologies, LLC v Research in Motion Corporation, et. al.

Case No. 6:10-cv-00074

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS TYLER DIVISION

Testifying expert in this patent case involving 3GPP technology.

Expert Reports:

12-31-12 Appendix A to Rebuttal Expert Report of Dr. David Wilson

3-13-13 Appendix A to Supplemental Expert Report of Dr. David Wilson

Attorneys: For Plaintiff: Mintz Levin Cohn Ferris Glovsky and Popeo PC

For Defendant: Paul Hastings LLP

Status: Case settled

8/2012 – 9/2013 **Client: Reed & Scardino, LLP (representing EON Corp. IP Holdings, LLC)**

Case: EON Corp. IP Holdings, LLC v. SKYGUARD, LLC et. al.

Case No. 6:11-cv-00015-LED

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS TYLER DIVISION

Testifying expert in this patent case involving RF technology for WiFi networking.

Expert Reports:

2-15-13 Expert Report regarding Infringement

4-09-13 Videotaped deposition

Attorneys: For Plaintiff: Reed & Scardino, LLP

For Defendant: K&L GATES LLP

Status: Case settled

5/2012 – 6/2014 **Client: Reed & Scardino LLP (representing Eon Corp. IP Holdings)**

Case: Eon Corp. IP Holdings, LLC v. Landis+Gyr, Inc., et. al.

Case No. 6:09-cv-00317-LED-JDL

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS TYLER DIVISION

Testifying expert in this patent case involving two-way wireless networks, before Judge Love.

Expert Report:

7-8-13 Expert Report regarding Infringement by Silver Spring Networks, Inc.

7-8-13 Expert Report regarding Infringement by Itron, Inc.

6-2-14 – 6-6-14 District Court trial testimony.

Attorneys: For Plaintiff: Reed & Scardino LLP

For Defendant: Dentons, LLP

Status: Jury award. All patents found valid and infringed.

3/2012 – 3/2014 **Client: Perkins Coie (representing Intel Corporation)**

Case: Stragent LLC, et. al. v. Intel Corp.,

Case No. 6:11-cv-421-LED (E.D. Tex.)

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS TYLER DIVISION

Testifying expert in this patent case involving the use of error detection technology in computer networking, before Judge Dyk.

Expert Reports:

08-23-13 Expert Report regarding Invalidity

09-23-13 Expert Report regarding Non-Infringement

Videotaped Deposition:

10-08-13, and 10-09-13

Jury trial testimony:

3-13-2014 Live trial testimony on non-infringement and invalidity before Judge Timothy Dyk

Attorneys: For Plaintiff: Nelson, Bumgardner & Casto

For Defendant: Perkins Coie

Status: Jury verdict for non-infringement and invalidity

2/2012 – 09/2015 **Client: Dewey & LeBoeuf LLP (representing Harris Corporation)**

Case: Harris Corporation v. Ruckus Wireless, Inc.

Case No. 6:11-cv-00618-CEM-CRS

Location: UNITED STATES DISTRICT COURT FOR THE MIDDLE DISTRICT OF FLORIDA ORLANDO DIVISION

Testifying expert in this patent case involving RF technology for WiFi networking.

Expert Reports:

3-5-12 Expert Report regarding Infringement

3-6-12 Supplemental Expert Report regarding Infringement

4-6-12 Expert Report regarding Validity

Declarations:

5-30-12 Declaration ISO Claim Construction

6-18-12 Declaration ISO Markman Motion

1-23-15 Declaration ISO Responsive Markman Brief

3-6-15 Supplemental Expert Report regarding Infringement

4-3-15 Rebuttal Expert Report regarding Validity

Videotaped Deposition:

4-30-12

Attorneys: For Plaintiff: Dewey & LeBeouf LLP

For Defendant: Lewis and Roca LLP

Status: Case settled

2/2012 – 2/2012 **Client: Common-Interest-Group (representing Nokia, Huawei, ZTE)**

Case: InterDigital Communications LLC, et. al. v. Huawei Tech Co., LTD., et. al.
Certain Wireless Devices With 3G Capabilities and Components Thereof
U.S. Int'l Trade Commission Inv. No. 337-TA-800

Location: UNITED STATES INTERNATIONAL TRADE COMMISSION

Testifying expert in this patent case involving 3G wireless, WiFi, and WCDMA technology.

Expert Reports:

11-30-12 Expert Report regarding Non-infringement

7-31-12 Expert Report regarding Invalidity

11-19-10 Rebuttal Expert Report regarding Validity

12-6-10 Supplemental Expert Report regarding Infringement

Videotaped Deposition:

12-14-12, 12-15-12

ITC Trial testimony:

2-15-12 Non-infringement and Invalidity witness statements, live testimony

Attorneys: For Plaintiff: Latham & Watkins, LLP

For Defendant: Alston & Bird, Covington & Burling, Brinks Hofer

Status: ITC hearing verdict: All patents not infringed and invalid

9/2010 – 4/2011 **Client: Reed & Scardino LLP (representing Eon Corp. IP Holdings)**

Case: Eon Corp. IP Holdings, LLC v. Sensus USA, Inc., et. al.

Case No. 6:09-cv-00116-LED-JDL

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
TYLER DIVISION

Testifying expert in this patent case involving two-way wireless networks

Expert Report:

10-22-10 Expert Report regarding Infringement (Sensus USA, Inc)

11-7-10 Expert Report regarding Infringement (Bell Industries)

11-19-10 Rebuttal Expert Report regarding Validity

12-6-10 Supplemental Expert Report regarding Infringement

Declaration:

12-28-10, 1-18-11

Videotaped Deposition:

12-8-10, 2-3-11

Attorneys: For Plaintiff: Reed & Scardino LLP

For Defendant: Jones Day

Status: Case settled

8/2010 – 6/2011 **Client: Sidley Austin LLP (representing Research in Motion Limited)**

Case: SimpleAir, Inc. v. Research in Motion Limited and Research in Motion Corporation, et. al.

Case No. 2:09-cv-00289-CE

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
TYLER DIVISION

Testifying expert in this patent case involving two-way wireless networks

Declaration:

5-13-11

Videotaped Deposition:

5-24-11

Attorneys: For Plaintiff: Dovel & Luner, LLP

For Defendant: Sidley Austin LLP

Status: Case settled

10/2009 – 2/2010 **Client: White & Case LLP (representing Marvell)**

Case: Marvell Semiconductor, Inc., et. al. v. Commonwealth Scientific Industrial Research Organisation

Case No. 6:07-CV-204 (LED)

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
TYLER DIVISION

Testifying expert in this patent case involving wireless LAN protocols.

Expert Report:

11-24-09 Rebuttal Expert Report

Videotaped Deposition:

01-07-10

Attorneys: For Plaintiff: White & Case LLP

For Defendant: Townsend and Townsend and Crew LLP

Status: Case settled

9/2009 – 2/2010 **Client: Perkins Coie Brown & Bain PA (representing Intel)**

Case: Saxon Innovations, LLC v. Apple, Inc., et. al.

Case No. 6:08-cv-00265-LED

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF
TEXAS TYLER DIVISION

Testifying expert in this patent case involving wireless technology.

Declarations:

12-04-09 Declaration Regarding Claim Construction

Videotaped Deposition:

01-19-10

Attorneys: For Plaintiff: Susman Godfrey LLP

For Defendant: Perkins Coie Brown & Bain LLP

Status: Case settled

8/2008 – 10/2009 **Client: Reed & Scardino LLP (representing Eon Corp. IP Holdings)**

Case: Eon Corp. IP Holdings, LLC v. Verizon Clinton Center Drive Corp., et. al.

Case No. 6:08-cv-00385

Location: UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF
TEXAS TYLER DIVISION

Testifying expert in this patent case involving two-way wireless networks

Expert Report:

06-22-10 Expert Report

08-16-10 Supplemental Expert Report

Videotaped Depositions:

08-18-10, 08-26-10

Attorneys: For Plaintiff: Reed & Scardino LLP

For Defendant: Simpson Thacher & Bartlett LLP

Status: Case settled

4/2008 – 3/2009 **Client: McDermott, Will & Emery LLP (representing GE Licensing)**

Case: CIF Licensing, LLC d/b/a GE Licensing v. Agere Systems, Inc.

Case No. 07-170 (JJF)

Location: UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

Testifying expert in this patent case involving modem technology.

Expert Report:

09-05-08 Rebuttal Expert Report

Non-videotaped Depositions:

9-24-08, 9-26-08

Jury trial testimony:

2-04-09

Attorneys: For Plaintiff: McDermott, Will & Emery LLP

For Defendant: Townsend and Townsend and Crew LLP

Status: Jury award. 2 patents infringed and valid, remaining 2 patents non-infringed

2/2008 – 5/2010, **Client: Simpson Thacher & Bartlett LLP (representing Cisco Systems, Inc.)**
2/2011 – 4/2011

Case: Commil USA, LLC v. Cisco Systems, Inc., et. al.

Case No. 2:07-CV-341-DF-CE

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

Testifying expert on invalidity regarding short range communication protocols.

Opening Expert Report

12-23-09

Videotaped Depositions:

02-09-10

Attorneys: For Plaintiff: Sayles Werbner

For Defendant: Simpson Thacher & Bartlett LLP

Status: Jury award for original trial and retrial: patents found valid and infringed.

6/2007 – 4/2009 **Client: Common Interest Group of Co-Defendants**

11/2010 – 4/2012 **Client: Common Interest Group of Co-Defendants**

Case: Commonwealth Scientific and Industrial Research Organisation v. Toshiba America Information Systems, Inc., et. al.

Case No. 6:06-cv-00550-LED

Case No. 6:09-CV-0399 (LED)

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
TYLER DIVISION

Testifying expert in this patent case involving wireless LAN technology.

Declarations:

06-05-08 Regarding claim construction

12-17-08 Supporting opposition to summary judgment

04-05-09 Supporting motion for reconsideration

02-24-12 Supporting opposition to summary judgment

Expert Reports:

10-08-08 Rebuttal Expert Reports- Re: TI Chips, Re: Marvell Chips, Re: Airgo Chips, Re: Broadcom Chips, Re: Conexant Chips, Re: Ralink Chips, Re: Atheros Chips

01-27-12 Rebuttal Expert Reports- Re: TI Chips, Re: Broadcom Chips, Re: Ralink Chips, Re: Atheros Chips

Videotaped Depositions:

11-1-08, 11-2-08, 02-14-12

Attorneys: For Plaintiff: Townsend & Townsend LLP

For Defendant: Keker & Van Nest, LLP

Status: Jury trial: patents found valid and infringed.

10/2006 – 8/2009 **Client: Keker & Van Nest (representing Comcast Corporation)**

Case: Rembrandt Technologies, Inc. v. Comcast Corporation

Case No. 2-05CV-000443 (TJW)

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

Testifying expert in this patent case involving physical layer and data link layer communication protocols for cable networks.

Declaration:

01-10-07 Support of Claim Construction Brief

Videotaped Deposition:

12-22-06 Regarding claim construction opinions

Attorneys: For Plaintiff: McKool Smith

For Defendant: Keker & Van Nest

Status: Case settled

3/2007 – 5/2007 **Client: Niro, Scavone, Haller and Niro (representing MLR, LLC)**

Case: MLR, LLC v. Kyocera Wireless Corporation and Novatel Wireless, Inc.

Case No. 05-CV-0935 B (AJB)

Location: UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF
CALIFORNIA

Testifying expert in this patent case involving cellular phone technology.

Expert Report:

04-20-07 Expert Report regarding infringement

Attorneys: For Plaintiff: Niro, Scavone, Haller, and Niro

For Defendant: Hogan & Hartson, LLP

Status: Case settled

6/2006 – 10/2006 **Client: Thompson & Knight (representing Ericsson, Inc.)**

Case: Fenner Investments, Ltd., v. Juniper Networks, Inc. et. al.
Case No. 2:05–CV–05 JDL

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

Testifying expert in this patent case involving wireless communications services.

Expert report regarding infringement and invalidity

5-23-06 Rebuttal expert report regarding infringement and invalidity

Attorneys: For Plaintiff: Fulbright & Jaworski

For Defendant Ericsson: Thompson & Knight

Status: Case settled

12/2003 – 5/2006 **Client: Howrey LLP/ Winston & Strawn LLP (representing McKesson Information Solutions, Inc.)**

Case: McKesson Information Solutions, Inc. vs. Bridge Medical, Inc.
Case No. CIV S-02-2669 FCD KJM

Location: UNITED STATES DISTRICT COURT EASTERN DISTRICT OF
CALIFORNIA

Testifying expert in this patent case involving a patient on a patient identification and verification system that incorporates wireless technology.

Inequitable Conduct Trial live testimony:
5-04-06

Markman Hearing live testimony:
6-29/30-05

Videotaped Depositions:
2-14-04, 6-3-05

Declarations:

12-1-03 Dec. in support of MISI's Opening/Opposition re Claim Construction

12-24-04 Dec. in support of MISI's Motion for Preliminary Injunction

3-1-04 Dec. in support of Claim Construction

6-29-04 Dec. re meaning of "Communication"

7/15/05 Dec. in support of MISI's Opposition to Bridge's Motion for
Summary Judgment

Attorneys: For Defendant: Morrison & Foerster

For Plaintiff: Howrey Simon, Winston & Strawn, Morgan Lewis

Status: Bench trial on inequitable conduct: Verdict found inequitable conduct.

07/2003–02/2006 **Client: Heller Ehrman LLP (representing Texas Instruments, Inc.)**

Case: Texas Instruments, Inc. and Stanford University vs. GlobespanVirata, Inc.

Provided discovery of evidence used at trial, concerning the structure and operation of Globespan's ADSL products, and supported litigators in depositions of Globespan engineers.

Attorneys: For Plaintiff: Heller Ehrman

For Defendant: Covington & Burling, LLP

Status: Jury award.

Patents

<u>Patent Number</u>	<u>Date Issued</u>	<u>Title</u>
8,995,996	March 31, 2015	Methods and apparatus for performance optimization of heterogeneous wireless system communities
8,935,580	January 13, 2015	Multimedia-aware quality-of-service and error correction provisioning
8,468,426	June 18, 2013	Multimedia-aware quality-of-service and error correction provisioning
8,189,538	May 29, 2012	Reconfiguration of a communication system
8,144,640	March 27, 2012	Location tracking in a wireless communication system using power levels of packets received by repeaters
8,064,380	November 22, 2011	Reconfiguration of a communication system
8,027,637	September 27, 2011	Single frequency wireless communication system
7,957,741	June 7, 2011	Token-based receiver diversity
7,876,704	January 25, 2011	Tunneling protocols for wireless communications
7,689,210	March 30, 2010	Plug-n-playable wireless communication system
7,672,274	March 2, 2010	Mobility support via routing
7,668,542	February 23, 2010	Token-based receiver diversity
7,515,557	Apr 7, 2009	Reconfiguration of a communication system

7,236,470	Jun 26, 2007	Tracking multiple interface connections by mobile stations
7,149,196	Dec 12, 2006	Location tracking in a wireless communication system using power levels of packets received by repeater
6,965,769	Nov 15, 2005	Testing Center
6,862,448	Mar 1, 2005	Token-based receiver diversity
6,788,658	Sep 7, 2004	Wireless communication system architecture having split MAC layer
6,760,318	Jul 6, 2004	Receiver diversity in a communication system
6,557,134	Apr 29, 2003	ARQ method for wireless communication
6,259,911	Jul 10, 2001	Network operations center hardware and software design

Education

Year	College/University	Degree
1993	Stanford University	PhD, Electrical Engineering Thesis: “Trellis Coding for Multi-Level, Partial-Response Continuous Phase Modulation with Precoding”
1988	Stanford University	MS, Electrical Engineering
1985	Rensselaer Polytechnic Institute	BS, Computer and Systems Engineering

Publications

Goldhamer, M., Grandblaise, D., Bims, H., Feng, S., Piggin, P., Sydor, J., and Wu, X. “Coexistence between 802.16 Systems Operating in Shared Bands”, *Radio Resource Management in WiMAX*, John Wiley & Sons, 2009.

Bims, Harry. “Surveying the Wireless LANDscape. Or Why Large Wi-Fi Networks Require Good Planning.” Xchange. [Online] Available <http://www.xchangemag.com/articles/391supsys1.html>, September 1, 2003.

Bims, Harry. “Building Voice-Ready Wireless LANs” *Wireless Week*. [Online] Available <http://www.wirelessweek.com/article/CA319429.html?spacedesc=Departments>, September 1, 2003.

Bims, Harry. “Enabling Voice over WLANs”. White Paper. [Online] Available. http://airflownetworks.com/solutions/pdf/vowlan_wp.pdf. September 2003.

- Bims, Harry. "Securing Enterprise WLANs". White Paper. [Online] Available.
http://web.archive.org/web/20040303212529/airflownetworks.com/solutions/pdf/securing_wlans_wp.pdf. August 2003.
- Bims, H. and Cioffi. J. "Trellis Coding for Full-Response CPM", *Third Generation Wireless Information Networks*, Kluwer Academic Publishers, 1992.
- Bims, H. and Cioffi. J. "Trellis Coding for Full-Response CPM", *WINLAB WORKSHOP*, East Brunswick, NJ. October 18-19, 1990.
- Bims, H. and Cioffi, J. "Trellis Coding for Partial-Response CPM", *1991 International Symposium on Information Theory*, Budapest, Hungary. June 24-28, 1991.
- Bims, H. and Cioffi, J. "Trellis Coding with M-ary MSK Constraints", *GLOBECOM '89*, Dallas TX. Nov. 1989.

Professional Associations and Achievements

- Jan 2009 – Present Vice-Chair and Board of Directors, Menlo Park Chamber of Commerce
- Nov 2007 – Sep 2010 Vice-Chair and Secretary, IEEE 802.16h License Exempt Group
- Feb 2002 – Jan 2011 Member, City of Menlo Park Planning Commission
(2006 Chairperson, 2005 Vice-Chairperson)
- Feb 2012 – Present Senior Member, IEEE
- Jan 2000 – Dec 2000 Chair, IEEE Engineering Management Society – Silicon Valley Chapter
- Jun 1985 - Jun 1991 AT&T Bell Laboratories Cooperative Research Fellow