

Expert/Consultant Curriculum Vitae

Professor Zhi Ding

Ph.D. and Fellow of IEEE

Expertise

- Wireless Communication Systems
 - Cellular Wireless
 - Communication networks
 - Signal Processing and Analysis
 - Digital Transmissions
 - DSL and Cable Internet Service
 - Digital Signal Processing
 - WiFi, LTE, DOCSIS, Bluetooth
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Professional Summary

- *Professor of major US universities for over 28 years.*
- *Consulted for major engineering companies such as Nortel, Analog Devices, Intel, and NEC*
- *Worked as expert on multiple patent infringement cases.*
- *Conducted research works on Communications and Signal Processing for over 30 years.*
- *Supervised over 25 PhD students.*
- *Author of more than 170 journal papers and 2 books on communication technologies.*

Dr. Zhi Ding has been a professor of electrical engineering at major US universities for 27 years. Since 1995, he has consulted for both engineering companies such as Nortel, Analog Devices, Intel, and worked as expert for major law firms such as Kirkland & Ellis, WilmerHale, Quinn Emanuel, Fish & Richardson, Sheppard Mullin, Sidley Austin, Mayer Brown, Venable, and Finnegan, on multiple technical and patent infringement cases. He has been conducting research works on wireless communications and signal processing since 1984. He has supervised over 25 PhD students. He is an author of 170 journal papers and 2 technical books on communication technologies. He has taught classes that cover the fundamentals of signal detection, communications, and systems.

Dr. Ding was appointed as the Child Family Professor of Engineering and Entrepreneurship in 2009-2014. He served as the steering committee chair of the IEEE Transactions on Wireless Communications. He was elevated to Fellow of IEEE in 2002 by the IEEE Signal Processing Society. He also served as the Technical Program Chair of the IEEE Globecom 2006 (the flagship conference of the IEEE Communications Society), Dr. Ding is an eminent scholar and expert of wireless technologies AND signal processing.

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Consulting History (Partial List):

Past Client	Past Services
Kirkland & Ellis LLP	Expert consultant on various wireless (cellular and WiFi) and communications technologies since 2007. Major engagements include 2007-10: E. D. Texas, C.A. No. 2:07-CV-474 2008-10: E. D. Texas, C.A. No. 2:08-CV-247 2008: Apple License Consulting (M. Pieja) 2009: Apple Patent Analysis (B. Kwok) 2009: Cisco v. MOSAID matter (E. Lamison) 2009-10: D. Del. C.A. No. 07-CV-752 2008-10: D. Del. C.A. No. 07-md1848 2009-10: E.D. Texas, C.A. No. 5:09-cv-00101 2010-13: Netgear, Inc. & Ruckus Wireless Inc. Patent Matter, Netgear, Inc. & Ericsson Inc. Patent Matter. (E. Lamison) 2011-13: E. D. Texas, C.A. No. 6:10-cv-00473-LED 2011-13: N. D. Illinois, No. 1:11-cv-09308 2011-13: D. Del. Case No. 1:11-cv-00425 2013: Alcatel-Lucent Patent matters (B. Nguyen)
Wilmer Cutler Pickering Hale, and Dorr, LLP	Expert consultant on cellular wireless and communications technologies since 2010. Major engagements include 2009-11: D. Del. C.A. No. 09-791-GMS 2009-11: D. Del. C.A. No. 09-1002 and ITC Docket 2702 2012: N.D. Cal. Apple Inc. v. Samsung Elecs. Co., No. 12-cv-630. 2011-13: Apple Inc. v. Samsung Electronics Co. (US, Japan, Korea, Germany, the Netherlands, UK, Italy, and others) including N. D. Cal, Case No. 11-cv-01846, ITC Docket Nos. 2824, 2827.
Fish and Richardson, LLP	Expert witness on cellular wireless and communications technologies for Marvell, Inc. Major engagements include 2014-15: <i>Inter Partes</i> Review of U.S. Patent 5,712,870 2014: <i>Inter Partes</i> Review of U.S. Patent 6,977,944
Kaye Scholer LLP	US District Court of Delaware 2009-10: D. Del. C.A. No. 07-CV-752 2008-10: D. Del. C.A. No. 07-md1848 Representing defendant as expert technical consultant against infringement accusations involving data over cable services. Case dropped by the plaintiff after expert reports 2008-2009. Attorney's fees recovered. 2012: C.D. Cal., CV 11-09373 RGK (RZx) 2012: D. Del., C.A. No. <u>10-1062-GMS</u>

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Bridges and Mavrakakis, LLP	IP Evaluation matters regarding client multi-billion dollar Patent portfolio purchase and other matters since 2011.
Sterne, Kessler, Goldstein & Fox PLLC	Technical consultant and expert declarant in Inter Partes Review Proceedings US Patents 7,477,624, 7,903,608, 8,542,643.
Bramson, Plutzik, Mahler & Birkhaeuser	2013: Expert witness for Plaintiff for a putative class action.
Gibson, Dunn & Crutcher, LLP	2014: Expert Consultant, for AT&T Mobility LLC and Cricket Communications, Inc., D. Del. Civil Action Nos. 13-1668 (LPS) 13-1669 (LPS)
Quinn Emanuel	2014: Expert technical consultant in Civil Action No. 1:13-cv-473 (D. Del.) (SLR)
Norton Rose Fulbright US LLP	2015-17: Technical consultant and expert witness in 1:14-cv-00436 (D. C. West Texas) and IPR2015-10577, IPR2015-10580, IPR-201510581.
Sheppard, Mullin, Richter, and Hampton, LLP	2015-17: Technical consultant and testifying witness in Case No. 8:14-cv-341 (C. D. CA).
Rothwell, Figg, Ernest, and Manbeck, P.C.	2016: Technical consultant and expert witness in 15-cv-01746-H-RBB (S. D. CA).
Mayer Brown LLP	2016-17: Technical consultant and expert testifying witness in Arbitration on SEP and licensing disputes.
Sidley Austin, LLP	2016-17: Technical consultant and expert testifying witness on SEP and licensing disputes.
Irell & Manella, LLP	2016-17: Technical consultant and testifying witness regarding US Patent disputes.
Venable, LLP	2017-18: Expert witness for Verizon Services Corp. in Case No. 2:16-CV-588-WCB (E. D. TX) on US Patent disputes.
Pillsbury LLP	2017-18: Expert and testifying witness in Case in Case Case No. 5:16-cv-00179-RWS (E. D. TX) on patent dispute.

Expert/Consultant Curriculum Vitae

Expert Witness/Deposition (4 Trials and 8 Depositions)

Past Client

Bramson, Plutzik,
Mahler &
Birkhaeuser LLP

Past Services

2013: Deposition on Case No. CV 12-05240 PJH
Nad Karim v. Hewlett Packard, Co.
UNITED STATES NORTHERN DISTRICT COURT OF
CALIFORNIA. Settlement ordered Jan. 18, 2017.

Fish and Richardson
(Representing
Marvell)

2015 (Feb. & August): 2 Depositions for Marvell.
US PTAB *Inter Partes* Review IPR2014-00548
Marvell Semiconductor, Inc. v. Intellectual Ventures I LLC

Norton, Rose,
Fulbright, US, LLP

2016 (April): Deposition for
US PTAB *Inter Partes* Review IPR2015-10577, IPR2015-
10580, IPR2015-10581, IPR2015-10581.
Qualcomm Inc. v Bandspeed Inc.

Sheppard, Mullin,
Richter, and
Hampton, LLP

2016 (May): Deposition for TCL in
*TCL Communication Technology Holdings, LTD., et al. v.
Ericsson, et al.*, Case No. 8:14-cv-341 (C. D. CA).
2017 (Feb): **Testified at C.D. California** bench trial.

Sidley Austin, LLP

2016 (December): **Testified at** trial involving
Huawei Technologies, Co. Ltd v. Samsung
Regarding FRAND licensing disputes in Shenzhen Court, P.R.
China.

2018 (June): Deposition.

Mayer Brown LLP

2017 (January): **Testified during tribunal proceeding** for
LG Electronics, Inc. in standard essential patent (SEP) licensing
dispute of
Nokia Technologies, Ltd. v. LG Electronics, Inc.
During arbitration hearing in Paris, France.

Venable LLP

2017 (October): Deposition as expert witness for Verizon
Services Corp. in Case No. 2:16-CV-588-WCB (E. D. TX) on
US Patent disputes.

Pillsbury LLP

2018 (Feb): Deposition (Case No. 5:16-cv-00179-RWS)
2018 (June): **Testified at E. D. Texas** (Texarkana) jury trial
(Case No. 5:16-cv-00179-RWS).

Recent IPR Outcomes

[IPR2015-00314 Expert Declaration](#) to the Patent Trial and
Appeal Board with link to [Final PTAB Decision](#)

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[IPR2015-00315 Expert Declaration](#) and [Supplemental Expert Declaration](#) to the Patent Trial and Appeal Board with link to [PTAB Trial Decision](#).

[IPR2015-00531 Expert Declaration](#) to the Patent Trial and Appeal Board with link to [PTAB Trial Decision](#).

[IPR2015-01580 Expert Declaration](#) to the Patent Trial and Appeal Board with link to [PTAB Trial Decision](#).

[IPR2015-01582 Expert Declaration](#) to the Patent Trial and Appeal Board and link to [PTAB Decision on Institution of IPR and Grant of Motion for Joinder with ITR2015-00531](#).

[IPR2016-00620 Expert Declaration](#) to the Patent Trial and Appeal Board with link to [PTAB decision to institute](#) and link to [Final PTAB decision finding all but 2 dependent claims invalid](#).

[IPR2016-00623 Expert Declaration](#) to the Patent Trial and Appeal Board with link to [PTAB decision](#).

Employment History

- From: 2000 **University of California at Davis**
To: Present Davis, CA
Position: *Professor, Department of Electrical and Computer Engineering*
- From: 01/1999 **University of Iowa**
To: 09/2000 Iowa City, IA
Position: *Assoc. Professor, Department of Electrical and Computer Engineering*
- From: 01/1997 **Hong Kong University of Science and Technology**
To: 12/1997 Hong Kong
Position: *Visiting Associate Professor, Department of Electrical and Electronic Engineering*
- From: 09/1995 **Auburn University**
To: 12/1998 Auburn, AL
Position: *09/1995-12/1998: Associate Professor, Department of Electrical and Computer Engineering*
09/1990-08/1995: Assistant Professor, Department of Electrical and Computer Engineering

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