

## DAVID KUAN-YU LIU, Ph.D.

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### PROFESSIONAL PROFILE

- Technical expert with over 20 years of industrial experience in the development of advanced CMOS devices and process technology, with special emphasis on non-volatile semiconductor memory devices and process technology, and high-voltage semiconductor devices, with additional 12 years of experience serving as expert consultant.
  - Named inventor on 99 US patents.
- Consultant and expert witness for past 12 years in semiconductor intellectual property evaluation and patent litigation, with deposition experience and successful ITC trial testifying experience.
- Successful track record in transitioning products from development phase to high-volume manufacturing phase, both as an individual contributor and as manager/director.
- Co-founder of an LLC in the development and licensing of intellectual property with emphasis on embedded flash memory technology.
- Co-founder of a semiconductor memory start-up company (Progressant Technologies, Inc.); participated in its successful sale to Synopsys, Inc.
- Fluent in Mandarin Chinese (native language) and English; over 10 years experience as real-time translator of church sermons and proficient in written translation.

### EDUCATION

#### **Stanford University, Palo Alto, California**

Ph.D., Electrical Engineering (1989)

Thesis: Physics and Technology of Novel Conductivity-Modulated Power MOSFET's

M.S., Electrical Engineering (1985)

Coursework in integrated-circuit technology, semiconductor device physics, computer modeling of semiconductor devices and fabrication processes, and solid-state physics

#### **University of California, Berkeley, California**

B.S., Electrical Engineering (1983)

Certificate of Distinction (awarded annually to the top EECS graduate)

### EXPERT WORK EXPERIENCE:

<b>Case:</b>	<b>Arbor Global Strategies LLC vs. Samsung Electronics</b>
<b>Jurisdiction:</b>	Action No. 2:19-cv-00333 Eastern District of Texas
<b>Work Product:</b>	Expert for non-infringement/invalidity on 3 patents relating to stacked processor module, responsibilities include drafting reports or declaration, and testifying at depositions hearing or trial.
<b>Nature of Case:</b>	Civil action.
<b>Counsel:</b>	Retained by Fish & Richardson (Contact: Tony Nguyen)
<b>Date:</b>	6/20 – Current

**Case:** *Texas Instruments IPR Petition*  
**Work Product:** Patent analysis and prior art review toward preparation of IPR petition material and draft of declaration.  
**Counsel:** Retained by Fish & Richardson (Contact: Josh Griswold)  
**Date:** 9/20 – 4/21

**Case:** *Micron Technology vs. UMC/JinHua*  
**Jurisdiction:** Case No. 4:17-CV-06932-MMC  
United States District Court for the Northern District of California  
**Work Product:** Testifying expert, trade secret documents review, and declaration submission.  
**Nature of Case:** Trade secret contention of Micron confidential documents.  
**Counsel:** Retained by Jones Day (Contact: Randy Kay)  
**Date:** 3/17 – Current

**Case:** *SK Hynix vs. BitMicro*  
**Jurisdiction:** Investigation No. 337-TA-1097  
United States International Trade Commission  
**Work Product:** Testifying expert for non-infringement on 2 patents, issued expert rebuttal report, deposition taken, issued witness statement.  
**Nature of Case:** ITC infringement case concerning module stacking of SDRAM.  
**Counsel:** Retained by Fish Richardson (Contact: Joseph Colaianne)  
**Date:** 11/18 – 4/19

**Case:** *Rohm Company IPR Petition*  
**Work Product:** Patent analysis and prior art review toward preparation of IPR petition material and draft of declaration.  
**Counsel:** Retained by Fish & Richardson (Contact: Matt Colvin)  
**Date:** 4/18 – 8/18

**Case:** *Apple Inc., vs. Qualcomm Incorporated*  
**Jurisdiction:** Case No. 3:17-CV-02402  
United States District Court for the Southern District of California  
**Work Product:** Patent analysis and prior art review toward preparation of IPR petition material and draft of declaration, 2 depositions taken.  
**Counsel:** Fish & Richardson (Contact: Tony Nguyen)  
**Date:** 1/18 – 5/19

**Case:** *Macronix vs. Toshiba*  
**Jurisdiction:** Investigation No. 337-TA-1046  
United States International Trade Commission  
**Work Product:** Testifying expert for infringement and non-invalidity on 2 patents, claim construction analysis, technical tutorial, database viewing for evidence gathering, issuing expert report and expert rebuttal report, deposition taken for 2 patents, issued witness statement and rebuttal witness statement, testified in ITC court on both infringement and invalidity.  
**Nature of Case:** ITC infringement case concerning advanced NAND Flash memory.  
**Counsel:** Retained by Fish Richardson (Contact: David Barken)  
**Date:** 4/17 – 10/18

**Case:** *Novatek Microelectronics Corp. IPR Petition*  
Work Product: Patent analysis and prior art review toward preparation of IPR petition material and draft of declaration.  
Counsel: Retained by Kroub, Silbersher & Kolmykov PLLC (Contact: Sergey Kolmykov)  
Date: 2/17 – 4/17

**Case:** *Taiwan Semiconductor Manufacturing Company IPR Petition*  
Work Product: Patent analysis and prior art review toward preparation of IPR petition material and draft of declaration.  
Counsel: Retained by Fish & Richardson (Contact: John Goetz)  
Date: 7/15 – 4/17

**Case:** *Triune Systems, LLC vs. Wayne Chen, et al.,*  
Jurisdiction: Case No. 296-03209-2013,  
District Court of Collin County, TX  
Work Product: Testifying expert, database viewing, expert report, video-taped testimony  
Nature of Case: Defending against trade secret contention.  
Counsel: Retained by Gordon & Rees LLP (Contact: Robert Bragalone)  
Date: 5/15 – 9/15

**Case:** *Macronix vs. Spansion*  
Jurisdiction: Investigation No. 337-TA-922  
United States International Trade Commission  
Work Product: Testifying expert, claim construction analysis, technical tutorial, database viewing for evidence gathering, expert report, expert rebuttal report.  
Nature of Case: ITC infringement case concerning Flash memory cell  
Counsel: Retained by Fish Richardson (Contact: David Barken)  
Date: 9/14 – 1/15

**Case:** *Macronix vs. Spansion*  
Jurisdiction: Investigation No. 337-TA-909  
United States International Trade Commission  
Work Product: Database viewing for evidence gathering, support technical content of expert report, support technical content against rebuttal report.  
Nature of Case: ITC infringement case concerning Flash memory cell  
Counsel: Retained by Winston & Strawn (Contact Michael Murray)  
Date: 5/14 – 1/15

**Case:** *Keranos, LLC v. Analog Devices et. al.*  
Jurisdiction: Civil Case No. 2:10-CV-00207  
United States District Court for the Eastern District of Texas  
Work Product: Claim Chart Generation and Claim Construction  
Nature of Case: Patent infringement case concerning split gate Flash memory cell  
Counsel: Retained by Agility IP (Contact Michelle Breit)  
Date: 2/09 – 2/14

**Case:** **Silicon Storage Technology, Inc. v. Xicor, LLC**  
**Jurisdiction:** Civil Case No. CV 10-01515  
United States District Court for the Northern District of California  
**Work Product:** Expert report and declarations  
**Nature of Case:** Matter concerning United States Reissue Patent RE38,370 on the process of flash memory cell.  
**Counsel:** Retained by Shore Chan Bragalone LLP (Contact Patrick Conroy)  
**Date:** 6/11 – 10/11

**Case:** **Fast Memory Erase, LLC v. Spansion et.al.**  
**Jurisdiction:** Civil Case No. 3:10CV-481  
United States District Court for the Northern District of Texas  
**Work Product:** Declarations  
**Nature of Case:** Defending Motion for Attorney Fees.  
**Counsel:** Retained by Shore Chan Bragalone LLP (Contact Patrick Conroy)  
**Date:** 2/10 – 6/10

**Case:** **Fast Memory Erase, LLC v. Spansion et.al.**  
**Jurisdiction:** Civil Case No. 3-08cv0977M  
United States District Court for the Northern District of Texas  
**Work Product:** Testifying expert: issuing expert report, declarations, and deposition taken.  
**Nature of Case:** Patent infringement case concerning minimizing source current during erase of Flash memory cell.  
**Counsel:** Retained by Shore Chan Bragalone LLP (Contact Patrick Conroy)  
**Date:** 2/09 – 5/10

**EXPERIENCE:**

10/07 to present: **Technical Consultant**  
Fish & Richardson, Serving as a testifying expert for the case of Macronix vs. Toshiba. Case involvement ended in ITC trial testifying for infringement and invalidity. Responsible for reviewing layout database in GDS formation and studying circuit schematics for gathering and reviewing of evidence, both for DI purpose and for infringement purpose.

Gordon & Rees LLP, Served as a testifying expert for trade secret contention case of Triune Systems vs. Wayne Chen, *et al.*, Case ended in settlement after summary jury trial. Responsible for gathering and reviewing of evidence, analyzed integrated circuits for technology features, issuing expert report, and video taped jury trial testimony.

Fish & Richardson, Served as a testifying expert for the case of Macronix vs. Spansion. Case ended in settlement. Responsible for gathering and reviewing of evidence, both for DI purpose and for infringement purpose, issuing declaration on claim construction, giving technical tutorial, issuing expert report and expert rebuttal report.

Winston & Strawn. Served as a consulting expert for the case of Macronix vs. Spansion. Case ended in settlement. Responsible for gathering and reviewing of evidence, both for DI purpose and for infringement purpose.

ShoreChanBragalone. Served as an expert witness for the case of Intersil vs. SST. Summary judgment was granted after claim charts and infringement contention were generated.

Keranos. Serving as an expert witness for the case of Keranos, LLC vs. Analog Devices, Inc. et. al. Overseeing the generation of claim charts and coordinating efforts in reverse engineering work on integrated circuit products.

ShoreChanBragalone. Served as an expert witness and testifying witness for the case of Fast Memory Erase, LLC vs. Spansion *et al.* (Performed claim construction, provided deposition testimony, and wrote expert report.)

RPX Corporation. Evaluated flash memory and CMOS image sensor patent portfolios for licensing and acquisition consideration. Assessed qualitative merits of each patent (total 76 patents) and identified potential infringers and potential licensees. Generated numerous claim charts against potential infringers based on published patents, technical papers and datasheets.

IBM Corp. Reviewed and evaluated IBM's 180nm HV process technology against customer's IP and applications, with a view toward IBM's potential bid for customer's process technology offerings. Assessed process compatibility and outlined gap/overlaps between IBM and customer.

Law+. Worked as a technical expert for the lead attorney on several IP litigation cases in the area of flash memory and CMOS process technology. Assembled critical evidence to invalidate key patent claims. Generated claim charts for several patents.

10/07 to 4/11:

**Jonker, LLC**

Inventor and Partner. Developed an intellectual property (IP) portfolio (7 U.S. patents granted and 3 U.S. patent applications pending) on zero-cost CMOS-logic-compatible embedded flash memory. Successfully negotiated the acquisition of this IP portfolio by a major semiconductor company.

8/04 to 10/07:

**Maxim Integrated Products, San Jose, California**

Senior Scientist. Responsible for developing embedded non-volatile memory process technology for battery management products. Duties included supervising the development of integrated process flows at the 0.35 $\mu$ m and 0.18 $\mu$ m CMOS technology nodes. Analyzed and solved process-related reliability issues.

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