

Curriculum Vitae

Dr. Marwan Hassoun
Tel. (978) 261-7404, Cambridge, MA
E-mail: marwan@intellectualinspiration.com

Major Highlights

30+ years of High-Tech Industrial, Academic, Intellectual Property, Entrepreneurship, and Innovation Experience

- MIT Sandbox Entrepreneurship and Innovation Fund –Director of Partnerships with responsibilities including: Creating partnerships and customization of the MIT Sandbox entrepreneurship and innovation program for other institutions with near term focus on Africa; Mentoring student groups at MIT on entrepreneurship, innovation, technology, organization, and intellectual property strategies; Present workshops on technical innovation and intellectual property strategy for startups; Review funding proposals from aspiring startup groups and coach them through prototyping, customer discovery, minimum viable product and fundraising stages; Since 2019, launch a sister innovation and entrepreneurship program in Morocco (as Executive Director of the UM6P Explorer Innovation Fund) including strategic planning, lectures, workshops, training on three campuses, 250+ students and over 20 mentors.
- Founded, co-founded, partnered, launched, and managed multiple technology startups over the last 22 years including RocketChips, KeyEye Communications, MadMax Optics, BooksOnBoard, TraChip, Green Semiconductor, Intellectual Inspiration and Intelligent Metabolomics spanning various technology areas and markets.
- Green Semiconductor Inc., Intellectual Inspiration, Consulting: Intellectual Property, Integrated Circuits, SoCs. Technical evaluation of IP portfolios; Expert witness for 30+ intellectual property, trade secret and technology dispute cases; Development of innovation and IP protection strategies for startups including development of new IP; Consulting with semiconductor companies on various design and strategic matters. Clients include Samsung, Texas Instruments, Qualcomm, Broadcom, MediaTek, STMicro, nVidia, Maxim, Marvell, HTC, ZTE, LG, Comcast, ViaSat, Huawei, Palo Alto Networks, Power Integration, Intellectual Ventures, RPX and Western Technology Ventures.
- Senior Vice President of Engineering at KeyEye Communication, Inc. Built and lead a team of 50+ Analog, DSP, Systems and Digital engineers distributed in Sacramento, Minneapolis, Florida, India and Australia to the development of industry's lowest power 10GBASE-T solution. The complex chip included custom DSP, 1Gbps 9-bit quad ADCs, 1Gbps 10-bit DACs, 3.2GHz PLLs and an IFFT/FFT custom ultra-low power processor for Echo/Next cancellation all operating as a single system. Also drove the intellectual property strategy, monetized the portfolio and directly involved in fund raising and M&A activities.
- Sr. Director of Engineering for the Communications Technology Division at Xilinx, Inc. This includes a team of 60+ engineers in Austin, Minneapolis, San Jose and Ames. Responsible for producing the high-speed serial Multi-Gigabit Transceiver technology in the platform FPGAs (Virtex Family) programmable to support over 10 different serial technologies. Producing 1st pass working silicon in extremely advanced process technologies using innovation in architecture, circuits, redundancy, calibration and error correction. Awarded innovation of the year award. Served on Patent Committee.
- President & Managing Partner in TraCHip, LLC, an intellectual property company and monetized various patent portfolios.
- Part of establishing and managing a startup company, RocketChips, INC (investor, partner and Vice President of Wired Products) from inception in 1997 till \$280 Million acquisition. Managed multi-company and multi-country (Japan, India and US) IC design products as well as major customers including INTEL, SONY and OKI. Major products included cutting edge high-speed serial transceiver technology.
- Responsible for design of power management IC products and ASICs for mobile phones while

consulting for Texas Instruments.

- 56 patents granted (40 US and 16 International) and 3 pending (US and International) in the areas of multi-gigabit serial transceivers, Programmable Logic Devices (FPGAs), high-speed high-resolution ADCs and DACs, Memories, RFID, DSP filters, Power Management, Machine Automation and Networking.
- Over 70 technical publications in National and International Journals and Conferences.
- Tenured professor in Electrical and Computer Engineering, Chair of the VLSI group and Co-Founded the Analog and Mixed-Signal VLSI Design Center at Iowa State University. Served as Director of the Center. Attracted sponsorship for the Center from major companies that include Texas Instruments, Honeywell, Rockwell, RocketChips, Non-Volatile Electronics and VTC.
- Established, drove, participated, and negotiated Intellectual Property Strategy at all positions since 1994.

EXPERIENCEJun `17 – Present*Director of Partnerships (since 2020), Mentor (since 2017)*

MIT Sandbox Innovation Fund Program

Massachusetts Institute of Technology, Cambridge, MA

Responsible for creating partnerships and customization of the MIT Sandbox entrepreneurship and innovation program for other institutions with near term focus on Africa. Launched and currently serving as Executive Director at Université Mohammed VI Polytechnique (UM6P Explorer Innovation Fund Program), a sister program in Morocco.

Mar `08 – Present*President, CEO and Founder***Green Semiconductor, Inc.**, Austin, TX and**Intellectual Inspiration**, Boston, MA (relocated to Boston Area June 2017)

IP and technology consulting firm.

General Areas: Integrated Circuits design and productization (Analog, Digital and Mixed-Signal), Memories, Wired Networking, Processors, RF)

Technical evaluation of IP portfolios; Expert witness for intellectual property, trade secret and technology dispute cases; Development of IP protection strategy for startups including development of new IP through collaboration with companies' executives and engineers; Consulting with semiconductor companies on various design and strategic issues. Clients include Samsung, Texas Instruments, Qualcomm, Broadcom, MediaTek, STMicro, nVidia, Maxim, Marvell, HTC, ZTE, LG, Comcast, ViaSat, Huawei, Palo Alto Networks, Power Integration, Intellectual Ventures, RPX and Western Technology Ventures.

Litigation Services: Since 2003 included more than 30 cases retained as an expert witness. The work involved testimony and expert reports on invalidity, validity, non-infringement, and infringement as well as IPRs. The testimony included 15 depositions (some included 2- and 4-day depositions) and 5 court/hearing testimonies with 28+ expert reports authored. List of cases are attached at the end of the CV.

Aug `20 – Jul `21*Professor of the Practice*

Department of Electrical and Computer Engineering

Tufts University, Medford, MA

Teaching VLSI (Very Large-Scale Integration) senior/graduate class. CMOS circuit design, structure of transistors, theory of operation, fabrication, state machines, FPGAs, SoCs, processors, memories, system timing.

Mar `03 – Aug `12*President & Managing Partner***TraCHip, LLC**, Austin, TX

Private intellectual property company.

Mar `08 – Mar `10*Chief Technology Officer***Abbey House Media (dba BooksOnBoard)**, Austin, TX

Web commerce and software development startup focused on digital media including eBooks and Audio Books.

Oct `05 – Mar `08*Senior Vice President of Engineering***KeyEye Communications, Inc.**, Sacramento, CA

Managed and built an organization with 50+ team members (Analog, Systems, DSP, Digital, Verification, Physical Design) with an innovative, startup oriented, staffing strategy across several design sites (Sacramento, Minneapolis, India and Australia). The result is industry's lowest power 10GBASE-T single chip product. In addition to the management and the vision, had hands-on reasonability for the power architecture, modeling and execution.

Jul '01 – Oct '05

Senior Director of Engineering, Communications Technology Division
Xilinx, Inc., Austin, TX

Managed an organization with 60+ team members across 4 sites in analog, digital and mixed-signal IC design, modeling, application engineering, systems engineering, product characterization, product engineering, production test engineering, advanced technologies, layout, CAD and information technology.

- Organizational and technical vision for Xilinx's high-speed serial I/O and ASSP technologies (180nm, 130nm, 90nm, 65nm and 45nm generations). This includes contributing to the vision for UXPi, an industry initiative for evangelizing 10Gbps technology, and the driving of industry standards to support further products.
- **Products:** Virtex-II PRO X (2 family members), Virtex-4 (5 family members) and RocketPHY (3 non-FPGA family members).
- Technical marketing support for both the platform FPGAs and the ASSPs.
- Customer support and interaction for current and future products.
- Partnership development with several tier 1 and tier 2 companies for process technology, packaging, licensing, high-speed connectors, high-speed backplanes and design. Including establishing industry initiatives at OIF and IEEE committees.
- Involvement in all aspects of the production of IC design including quality assurance and reliability.
- Served on patent committee for the Company.
- Recipient of the innovation of the year award for the Virtex-II Pro X product.

Mar '01 – Jul '01

Co-Founder, President and CEO
MadMax Optics, Inc., Austin, TX

Co-Founded the company to produce revolutionary simulation software for the optical component industry. Opened the main design center in Hamden, CT. Guided the company through the seed round financing. This included putting together a 5 year business plan, prospectus and investor presentations.

Aug '98 – Feb '01

Vice President of Wired Products
RocketChips, INC., Austin, TX (Acquired by **Xilinx, Inc.** in Nov 2000)

Contributed to the technical, managerial, organizational and marketing leadership for the company's three design centers in Minneapolis (MN), Ames (IA) and Austin (TX). Directly responsible for approximately 35 employees in Wired.

- Products and IP: SERDES and PCS layers for Gigabit Ethernet (IEEE 802.3z, 802.3ab), 2.5Gbps products for serial backplane applications (including OC-48), 10Gbps (IEEE 802.3ae and OC-192), IEEE 1394 and high-speed high-resolution ADCs and DACs (80Ms/s – 250Ms/s).
- Involved with the company since its inception in January 1997 as an early investor and technical and product development through the Iowa State University research work.
- Managed multi-company and multi-country (Japan, India and US) projects as well as major customers including INTEL, SONY and OKI.

Aug '96 - Jul '98

Contract IC Designer (Cellular and wireless ICs - power management)
Mixed-Signal Products Group

Texas Instruments, Dallas, TX

Contract design for mixed-signal power management ASICs for cellular applications. Involved in the design, implementation and test of several high volume production integrated circuits (TPS202X, TPS203X, TPS204X, TPS208X and TPS209X).

Jun '95 - Jul '96*Contract IC Designer (Analog-to-Digital Converters)*

Defense Systems & Electronics Group

Texas Instruments, Dallas, TX

Investigation and recommendation of a very high-speed high-resolution pipelined multi-path analog-to-digital converter architecture for communication applications.

Jan '85 - Jul '86*Software Development Engineer*

Cupertino Integrated Circuits Division,

Hewlett Packard Company

Santa Clara, CA

Design, implementation, and maintenance of circuit design analysis product (HPSPICE).

ACADEMIC EXPERIENCEAug '20 - Present*Professor of the Practice*

Department of Electrical and Computer Engineering

Tufts University, Medford, MA

Teaching VLSI (Very Large-Scale Integration) senior/graduate class. CMOS circuit design, structure of transistors, theory of operation, fabrication, state machines, FPGAs, SoCs, processors, memories, system timing.

2000 – 2017**Collaborating Professor**

Department of Electrical and Computer Engineering

Iowa State University, Ames, Iowa

- MS and PhD graduate students and serve on MS and PhD committees at ISU and at University of Texas, Austin.

1994 – 2000**Associate Professor with Tenure**

Department of Electrical and Computer Engineering

Iowa State University, Ames, Iowa

(On leave of absence from Aug 98-Jul 00. Several leaves while consulting for Texas Instruments)

1988 - 1994**Assistant Professor**

Department of Electrical and Computer Engineering

Iowa State University, Ames, Iowa***Research & Teaching***

Hired in 1988 by ISU to start the VLSI area in the department. This included establishing research area in VLSI CAD (Symbolic Circuit Analysis, Synthesis Methods for Data Converters) and Analog and Mixed-Signal VLSI (Data Converters, Gigabit speeds Communication Circuits, Magneto-resistive devices).

The largest impact has been the establishment of industrial contacts and the founding of the Analog and Mixed-Signal VLSI Design Center. **The funding commitments on which Dr. Hassoun was a PI or Co-PI have grown to approximately \$4.3 Million by 1998.**

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