

What: Please join New Street Research as Pierre Ferragu hosts the second edition of our annual 'Future of Computing' conference, themed "**The Future of Computing is Heterogeneous**", in **New York on Tuesday, June 4th**. CEO's and executives of **ARM, Applied Materials, Syntiant, Netronome, SWIMAI, CrossBar, and Spin Memory** will present their perspectives on the latest developments in computing and memory architecture.

Why: Moore's Law is slowing down and demand for compute goes through the roof. How does Technology Infrastructure deal with this contradiction? We all know the answer is accelerated computing, but it is much harder to call what accelerated computing will exactly look like. The "alphabet soup" of accelerated computing gets longer every year: GPUs, FPGAs, ASICs, TPU, FSD, MCM, Chiplets... The select group of speakers we have assembled for our second "Future of Computing" conference will shed some light with varied perspectives. **Topics to be discussed:**

- **Accelerated Computing:** where do we stand in terms of adoption, and what are the chip architectures used? GPUs, SmartNICs, FPGAs, in-house developed ASICs, etc.
- **Status of the end-markets:** where will demand for silicon come from in coming years? Data center, smartphones, emerging applications such as Automotive, VR/AR?
- **A.I. on the edge:** traditional model of learnings in the datacenter and inference on the edge vs. local learning.
- **Edge computing:** accelerated computing on the edge. Power constraints vs. computing requirements. Which chip architectures fit the bill?
- **Alternative memory architectures:** what role do new types of memory (ReRAM, PCRAM, MRAM) have to play in A.I. centric applications?
- **Material engineering challenges:** how is material science evolving to bring to market these new types of chip architectures?

When: June 4th, 8:00-13:30

Where: New York, The Penn Club ([link](#))

Preliminary Agenda:

Time Slot	Agenda	Speaker
8:00-8:30	Registration + pastry breakfast	
8:30-8:40	Introduction Session 1 Heterogeneous Computing	Pierre Ferragu, New Street Research
8:40-9:05	ARM	Ian Thornton, Head of Investor Relations
9:05-9:30	Netronome	Niel Viljoen, CEO
9:30-9:55	SWIM.AI	Simon Crosby, CTO
9:55-10:20	Syntiant	Kurt Busch, CEO
10:20-10:30	Coffee Break	
10:30-11:00	Panel Session & Q&A 1 ARM, Netronome, SWIM.AI, Syntiant	I. Thornton, N. Viljoen, S. Crosby, K. Busch
11:00-11:05	Introduction Session 2 Emerging Memory Architectures	Pierre Ferragu, New Street Research
11:05-11:25	Applied Materials (AMAT)	Michael Stewart, Investment Director Applied Ventures
11:25-11:35	Spin Memory	Tom Sparkman, CEO
11:35-11:45	CrossBar	George Minassian, CEO
11:45-12:15	Panel Session & Q&A 2 AMAT, Spin Memory, CrossBar	M. Stewart, T. Sparkman, G. Minassian
12:15-13:00	Networking Session	

Participating Companies:

- **Applied Materials** ([LINK](#)): AMAT is the #1 semicap equipment in the world and at the leading edge of material innovation. As such the company uses most advanced acceleration platforms in its own datacenters, and powers innovation behind leading-edge manufacturing.
- **ARM** ([LINK](#)): ARM defines the pervasive computing shaping today's connected world. Realized in 100 billion silicon chips, ARM's device architectures orchestrate the performance of the technology transforming our lives — from smartphones to supercomputers, from medical instruments to agricultural sensors, and from base stations to servers.
- **Crossbar** ([LINK](#)): Crossbar was founded in 2010 to commercialize a radically different approach to non-volatile memory called ReRAM. A unique memory technology that can be integrated inside a

system-on-chip or produced as a standalone memory chip, Crossbar ReRAM accelerates memory access by orders of magnitude.

- **Netronome** ([LINK](#)): Netronome designs and delivers server networking and coprocessor platforms, including its market leading silicon accelerators, SmartNICs and software, enabling customers to increase the efficiency and security of their modern data center infrastructure. Netronome's technology can also be purchased as hardened IP blocks to build custom SoC silicon devices. Netronome's solutions enable rapid innovation at lower cost and power through domain-specific, open and efficient programming models and ability to offload network and security processing.
- **Spin Memory** ([LINK](#)): AI, hyper-scale datacenters, self-driving cars, IoT, mobile and more. New innovations, applications and computing advancements are coming at a blistering pace — and memory is at the heart of all of them. With SRAM and DRAM hitting their size and power limits, Spin Memory is collaborating with world leaders to transform the semiconductor industry by offering MRAM solutions to replace on-chip SRAM and non-volatile memories — and by developing the next generation of persistent memories that match DRAM performance levels. Memory that will enable the digital experiences of today and tomorrow.
- **SWIMAI** ([LINK](#)): Swim was designed from first principles as a completely integrated solution for building scalable, end-to-end streaming applications. Instead of configuring a separate message broker, app server and database, Swim provides for its own persistence, messaging, scheduling, clustering, replication, introspection, and security. Because everything is integrated, Swim seamlessly scales across edge, cloud, and client, for a fraction of the infrastructure and development cost of traditional cloud application architectures.
- **Syntiant** ([LINK](#)): Syntiant Corp, headquartered in Irvine, CA, is pushing cutting-edge machine learning from the cloud to edge devices. Utilizing breakthrough technology, intelligent devices are free of cloud connectivity enabling ubiquitous machine intelligence that is always on while consuming ultra-low power.

Bios of speakers:

- **Applied Materials – Michael Stewart (Investment Director Applied Ventures):** Michael Stewart joined Applied Ventures in 2015 after working for more than 12 years in advanced technology development at Applied Materials and Intel. Michael's most recent investment was with portfolio company Electroninks where he serves as a board observer. Prior to joining Applied Ventures, Dr. Stewart was co-founder of JUSE LLC, a consumer electronics focused startup, and the inventor of the low cost CRAFT Cell for silicon photovoltaics. He has developed high volume manufacturing products for crystalline Si solar and semiconductor device fabrication. He is an expert in silicon materials science, surface chemistry, and post-CMOS electronics, as well as chemicals and materials for electronics and biotechnology applications. Dr Stewart holds a Ph.D. in Chemistry from Purdue University and an MBA from the University of California at Berkeley (Haas School of Business), and is an inventor on over 40 US and world patent applications.
- **ARM – Ian Thornton (Head of Investor Relations):** Ian Thornton is ARM's Head of Investor Relations. He joined ARM in 1999 and has held various technical and commercial marketing roles. Prior to taking charge of ARM's investor relations Ian was responsible for training the ARM sales force in the breadth of ARM's product portfolio, managing ARM's ecosystem and leading the company's competitive analysis program.

- Crossbar - George Minassian (CEO & Co-founder):** Dr. George Minassian has been a co-founder and CEO of Crossbar since 2010. A seasoned veteran of the semiconductor memory industry, Dr. Minassian brings Crossbar 25 years of experience in systems, logic design, new business development, and product development. Over his extensive career, Dr. Minassian has a proven track record of developing commercially successful, leading-edge products. From 2002 to 2010, Dr. Minassian held a variety of positions at Spansion, a leading innovator of Flash memory solutions, most recently as vice president of System and Software Engineering where he led the \$1.2 billion Flash Memory business targeting the cellular wireless market segment. While at Spansion, he developed and established new industry standards in emerging technologies such as PISMO and achieved a successful track record for large-scale product development and management. From 1999-2002, Dr. Minassian was director of Wireless Engineering at Advanced Micro Devices, a microprocessor leader, where he developed the industry's first CMOS RF process and complete 802.11b/a chipset and reference designs. Dr. Minassian holds a Ph.D. in Electrical Engineering and Computer Science from the University of Texas at Austin.
- Netronome – Niel Viljoen (CEO & Co-founder):** Niel was the founding CEO of Netronome and as a technology and business visionary, has led the company in the development of x86 networking co-processing solutions resulting in significant revenue growth. Prior to founding Netronome, Niel served as group CTO for Marconi plc after serving as GM and SVP of the FORE Systems Service Provider BU, where he drove a highly successful ATM adapter and switch portfolio of products.
- Spin Memory – Tom Sparkman (CEO):** Tom Sparkman has nearly 35 years of experience across medical, automotive, semiconductor and wireless technologies. His extensive leadership roles include CEO of Samplify Systems, a startup delivering mixed-signal semiconductor and ultrasound solutions, where he raised over \$25 million in capital. Additional career highlights include 19 years at various executive positions at Maxim Integrated Products, General Manager and Senior Vice President of Worldwide Sales roles at Integrated Device Technology, and most recently, General Manager and Senior Vice President, Worldwide Sales at Spansion, Inc., prior to its merger with Cypress Semiconductor. Mr. Sparkman holds a Bachelor of Science in Electrical Engineering from the University of California at Berkeley.
- SWIMAI – Simon Crosby (CTO):** Simon Crosby is CTO at SWIMAI, an edge intelligence software vendor that focuses on edge-based learning for fast data. He cofounded Bromium in 2010 and now serves as a strategic advisor. Previously, he was the CTO of the Data Center and Cloud Division at Citrix Systems; founder, CTO, and vice president of strategy and corporate development at XenSource; and a principal engineer at Intel, as well as a faculty member at Cambridge University, where he led the research on network performance and control and multimedia operating systems. Simon is an equity partner at DCVC, serves on the board of Cambridge in America, and is an investor in and advisor to numerous startups. He's the author of 35 research papers and patents on a number of data center and networking topics, including security, network and server virtualization, and resource optimization and performance. He holds a PhD in computer science from the University of Cambridge, an MSc from the University of Stellenbosch, South Africa, and a BSc (with honors) in computer science and mathematics from the University of Cape Town, South Africa.
- Syntiant - Kurt Busch (CEO):** Kurt Busch is the chief executive officer of Syntiant Corp. He has extensive experience in product development, having driven the successful launch of new products, ranging from SAS and semiconductors for telecom and broadcast video to consumer electronics and data center systems. Prior to Syntiant, he was president, chief executive officer and a member of the board of directors at Lantronix (NASDAQ: LTRX), a global provider of secure data access and

management solutions for Internet of Things (IoT) and information technology (IT). He also served as a senior vice president and general manager of high performance analog business unit at Mindspeed Technologies, acquired by MACOM. Prior responsibilities include technical sales and marketing roles at Analog Devices, Intel, Digital Equipment Corporation and two start-ups. Mr. Busch is an engineering hall of fame inductee of the University of California at Irvine, where he earned Bachelor of Science degrees in electrical engineering and biological science. He holds a Master of Business Administration from Santa Clara University.

RELEVANT RESEARCH:

- **Infrastructure Initiation: Taking Humans Out of the Loop** ([LINK](#))
- **AMAT & ASML: Arms dealers win, whichever the war** ([LINK](#))
- **Accelerated Computing Conference Takeaways** ([LINK](#))
- **Nvidia : 20%+ sustainable growth in gaming for free?** ([LINK](#))
- **A.I. on the Edge Conference Take-Aways** ([LINK](#))
- **ADAScadabra! a framework to understand how ADAS, ride-sharing, and Autonomous driving play out** ([LINK](#))
- **Tech Infrastructure Quarterly Bible – 4Q18** ([LINK](#))
- **NSR Year Ahead: Top 10 Picks For 2019** ([LINK](#))
- **Initiation: Taking a Serious Look at the SoftBank Group and the Vision Fund. Buy, target price ¥13,500** ([LINK](#))
- **Intel investor day wrap up: what are you waiting to buy the stock?** ([LINK](#))

Please contact a member of the team below if you are interested in attending.

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12 month historical recommendation changes are available on request

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