HiPEAC Conference Seeks to Advance Computing in Face of Crisis

January 15, 2018

GHENT, Belgium, Jan. 15, 2018 — From 22-24 January in Manchester, the HiPEAC conference (https://www.hipeac.net/2018/manchester/) will once again bring together the best minds in computer architecture and compilation to exploit the enormous potential of new computing paradigms while minimizing the very real risks. At a time of global crisis in computing systems, with chip-level security flaws exposing the vulnerability of our ever-more connected society and the end of Moore's Law threatening to slow the progress brought about by faster, cheaper, more powerful processing, HiPEAC's network of experts will once again showcase their solutions for everything from machine learning to secure critical real-time systems.

'The HiPEAC conference is the flagship networking event of our 2000-strong community of computing experts,' says HiPEAC coordinator Koen de Bosschere of Ghent University. 'This year we are very happy to have two leading European companies (ARM for mobile computing and DeepMind for deep learning) as the main sponsors of the event. They are creating the key technological components of future smart devices,' he adds.

Keynote talks from Maria Girone (CERN openlab) on computing challenges at the Large Hadron Collider, Dileep Bhandarkar (Qualcomm Datacenter Technologies) on emerging data centre trends and Dan Belov (DeepMind) on machine learning will kick off each day.

Further highlights from the conference include:

- SAFURE's solutions for safety and security 'by construction' (https://www.hipeac.net/events/activities/7537/safure/) in interconnected, mixed-critical, cyber-physical systems, such as connected vehicles. During this session, SYSGO will present secure update concepts addressing fundamental safety requirements such as non-interference with respect to non-updated parts.
- Coordinated European research paving the way towards exascale computing (https://www.hipeac.net/events/activities/7521/exascalehpc/).
- GoingArm workshop (https://www.hipeac.net/events/activities/7552/going-arm/) on applications for the low-power Arm platform, including insights into the brain-inspired SpiNNaker machine (http://apt.cs.manchester.ac.uk/projects/SpiNNaker/) and hands-on Arm demonstrations.
- Innovative interconnect solutions at the AISTECS workshop (https://www.hipeac.net/events/activities/7516/aistecs/), including the launch of prototype memory disaggregation for cloud services developed by IBM Research – Ireland, as described in this blog post and video (https://www.ibm.com/blogs/research/2018/01/advancing-cloud-memory-disaggregation/).
- The Heterogeneity Alliance (https://www.hipeac.net/events/activities/7523/heterogeneity-alliance/), coordinated by the TANGO project, which aims to bring heterogeneous architecture in to mainstream markets.

Beyond academic excellence, the conference also facilitates the transformation of cutting-edge research results into market-ready innovations. As well as providing a hub for researchers, industry representatives and policy makers to exchange ideas, the conference features a specific TETRAMAX workshop on technology transfer (https://www.hipeac.net/events/activities/7539/tisu/). This follows the recent HiPEAC Tech Transfer Awards (https://www.hipeac.net/press/6829/ten-winners-selected-for-the-2017-hipeac-tech-transfer-awards/), which recognized ten projects where concrete research results have been made industrial practice.

HiPEAC18 will also once again feature HiPEAC's tailored recruitment support, including a travelling careers unit, which helps companies find candidates with the specialist skills to bring about the computing systems of the future. For the first time, the conference will also feature a STEM (Science, Technology, Engineering and Mathematics) Student Day, with the aim of preparing the next generation of computer scientists who will ensure Europe's enduring competitiveness.

With the Manchester 'Baby', the world's first stored-program computer, celebrating its 70th birthday this year, the northern city provides a particularly apt location for the conference, which is testament to the power of collaborative European research in the face of political uncertainty.

Once again, the biggest international names in technology, including Arm, DeepMind, Atos and Samsung, have shown their confidence in HiPEAC by generously supporting the conference. Full list of sponsors below.

About HiPEAC

Since 2004, the HiPEAC (High Performance and Embedded Architecture and Compilation) project has provided a hub for European researchers in computing systems; today, its network, the biggest of its kind in the world, numbers around 2000 specialists. The project offers training, mobility support and dissemination and recruitment services, along with numerous networking facilities to its members. The latest incarnation of the project, HiPEAC 5, began on 1 December 2017 and is delivered by 13 partners, led by Ghent University. It is funded by the European Union's Horizon 2020 research and innovation programme under grant agreement no. 779656.

HiPEAC organizes four networking events per year: the HiPEAC conference, two Computing Systems Weeks and a summer school. The HiPEAC conference attracts around 600 participants, and the 2018 edition is organized by the University of Manchester. The following organizations are generously supporting the conference: Arm, DeepMind, Atos, Samsung, AXIOM, Barco, dividiti, Embedded Computing Specialists, Kaleao, Polly Labs, Springer, Sundance, SYSGO, Thales, and Think Silicon.

Source: HiPEAC

Off The Wire Industry Headlines

January 18, 2018

- PASC18 Announces Keynote Speaker, Extends Paper Deadline to Jan. 21 (https://www.hpcwire.com/off-the-wire/pasc18-announces-keynote-speaker-extends-paper-deadline-jan-21/)
- Supercomputer Simulations Enable 10-Minute Updates of Rain and Flood Predictions (https://www.hpcwire.com/off-the-wire/supercomputer-simulations-enable-10-minute-updates-rain-flood-predictions/)
- ALCF Now Accepting Proposals for Data Science and Machine Learning Projects for Aurora ESP (https://www.hpcwire.com/off-the-wire/alcf-now-accepting-proposals-data-science-machine-learning-projects-aurora-esp/)
- Groundbreaking Conference Examines How AI Transforms Our World (https://www.hpcwire.com/off-the-wire/groundbreaking-conference-examines-ai-transforms-world/)
- India's Ministry of Earth Sciences Deploys New Cray XC40 Supercomputers and Cray Storage Systems (https://www.hpcwire.com/off-the-wire/indias-ministry-earth-sciences-deploys-new-cray-xc40-supercomputers-cray-storage-systems/)

January 17, 2018

- Supercomputing-Backed Analysis Reveals Decades of Questionable Investments (https://www.hpcwire.com/off-the-wire/supercomputing-backed-analysis-reveals-decades-questionable-investments/)
- CSRA Expands NASA's Supercomputing Architecture (https://www.hpcwire.com/off-the-wire/csra-expands-nasas-supercomputing-architecture/)
- Colovore Announces 2 MW Phase 3 Colocation Expansion (https://www.hpcwire.com/off-the-wire/colovore-announces-2-mw-phase-3-colocation-expansion/)

January 16, 2018

- Quantum Corporation Names Patrick Dennis CEO (https://www.hpcwire.com/off-the-wire/quantum-corporation-names-patrick-dennis-ceo/)
- New C-BRIC Center Will Tackle Brain-Inspired Computing (https://www.hpcwire.com/off-the-wire/new-c-bric-center-will-tackle-brain-inspired-computing/)
- New Center at Carnegie Mellon University to Build Smarter Networks to Connect Edge Devices to the Cloud (https://www.hpcwire.com/off-the-wire/new-center-carnegie-mellon-university-build-smarter-networks-connect-edge-devices-cloud/)
- UVA Engineering Tapped to Lead $27.5 Million Center to Reinvent Computing (https://www.hpcwire.com/off-the-wire/uva-engineering-tapped-lead-27-5-million-center-reinvent-computing/)
- Notre Dame to Lead $26 Million Multi-University Research Center Developing Next-Generation Computing Technologies (https://www.hpcwire.com/off-the-wire/notre-dame-lead-26-million-multi-university-research-center-developing-next-generation-computing-technologies/)

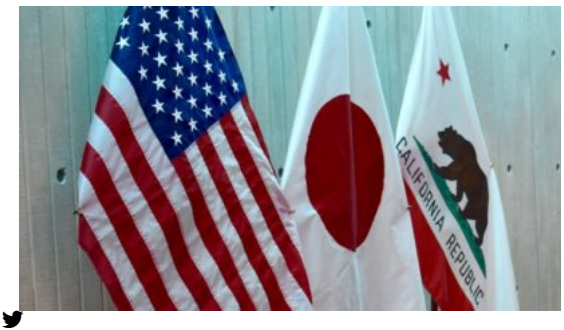
HPC Job Bank

Systems Administrators: Servers, Clusters and Supercomputers for Computational Biochemistry - D. E. Shaw Research (http://careers.hpcwire.com/jobdetails.cfm?jid=2508)

View this Career Listing (http://careers.hpcwire.com/jobdetails.cfm?jid=2508)

More Career Resources (http://careers.hpcwire.com)

THE LATEST EDITOR'S PICK



UCSD, AIST Forge Tighter Alliance with AI-Focused MOU

(https://www.hpcwire.com/2018/01/18/ucsd-aist-strengthen-15-year-partnership-mou/)

The rich history of collaboration between UC San Diego and AIST in Japan is getting richer. The organizations entered into a five-year memorandum of understanding on

mou/)

By Tiffany Trader

(http://twitter.com/intent/tweet?status=UCSD%2C%20AIST%20Forge%20Tighter%20Alliance%20with%20AI-Focused%20MOU+https%3A%2F

(http://www.linkedin.com/shareArticle?mini=true&url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F18%2Fucsd-aist-strengthen-15-year-

Focused%20MOU&source=https%3A%2F%2Fwww.hpcwire.com/) (http://www.facebook.com/sharer/sharer.php?u=https%3A%2F%2Fwww.hpc

mou%2F&title=UCSD%2C%20AIST%20Forge%20Tighter%20Alliance%20with%20AI-Focused%20MOU/) (https://plus.google.com/share?url=h

New Blueprint for Converging HPC, Big Data

(https://www.hpcwire.com/2018/01/18/new-blueprint-converging-hpc-big-data/)

After five annual workshops on Big Data and Extreme-Scale Computing (BDEC), a group of international HPC heavyweights including Jack Dongarra (University of Tenne

By John Russell

(http://twitter.com/intent/tweet?status=New%20Blueprint%20for%20Converging%20HPC%2C%20Big%20Data+https%3A%2F%2Fwww.hpcwir

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url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F18%2Fnew-blueprint-converging-hpc-big-data%2F)

Researchers Measure Impact of 'Meltdown' and 'Spectre' Patches on HPC Workloads

(https://www.hpcwire.com/2018/01/17/researchers-measure-impact-meltdown-spectre-patches-hpc-workloads/)

Computer scientists from the Center for Computational Research, State University of New York (SUNY), University at Buffalo have examined the effect of Meltdown and S

spectre-patches-hpc-workloads/)

By Tiffany Trader

(http://twitter.com/intent/tweet?

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measure-impact-meltdown-spectre-patches-hpc-workloads%2F) (http://www.linkedin.com/shareArticle?mini=true&url=https%3A%2F%2Fwww.h

workloads%2F&title=Researchers%20Measure%20Impact%20of%20%26%238216%3BMeltdown%26%238217%3B%20and%20%26%238216%3B

(http://www.facebook.com/sharer/sharer.php?u=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Fresearchers-measure-impact-melt

workloads%2F&title=Researchers%20Measure%20Impact%20of%20%26%238216%3BMeltdown%26%238217%3B%20and%20%26%238216%3B

url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Fresearchers-measure-impact-meltdown-spectre-patches-hpc-workloads%2F)

HPE Extreme Performance Solutions

HPE and NREL Take Steps to Create a Sustainable, Energy-Efficient Data Center with an H2 Fuel Cell (https://w
energy-efficient-data-center-h2-fuel-cell/)

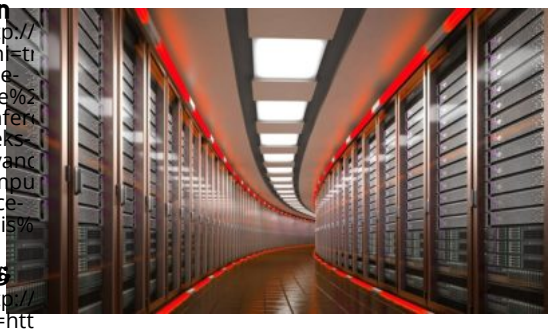
As enterprises attempt to manage rising volumes of data, unplanned data center outages are becoming more common and more expensive. As the cost of downtime rise
(https://www.hpcwire.com/solution_content/hpe/government-academia/hpe-nrel-take-steps-create-sustainable-energy-efficient-data-center-h2-fuel-cell/)

Visit the

Hewlett Packard Enterprise (https://www.hpcwire.com/solution_channel/hpe/)

Previous:

- HPE Gains Industry Recognition for Game-Changing Hybrid HPC Offering (https://www.hpcwire.com/solution_content/hpe/government-academia/hpe-gains-industry-re
- Accelerate Time-to-Value with HPC Modeling and Simulation Capabilities (https://www.hpcwire.com/solution_content/hpe/media-entertainment/accelerate-time-value-h
- The Living Heart Project Wins Three Prestigious Awards for HPC Simulation (https://www.hpcwire.com/solution_content/hpe/government-academia/living-heart-project



Fostering Lustre Advancement Through Development and Contributions

(https://www.hpcwire.com/2018/01/17/fostering-lustre-advancement-development-contributions/)

Six months after organizational changes at Intel's High Performance Data (HPDD) division, most in the Lustre community have shed any initial apprehension around the p
contributions/)

By Carlos Aoki Thomaz

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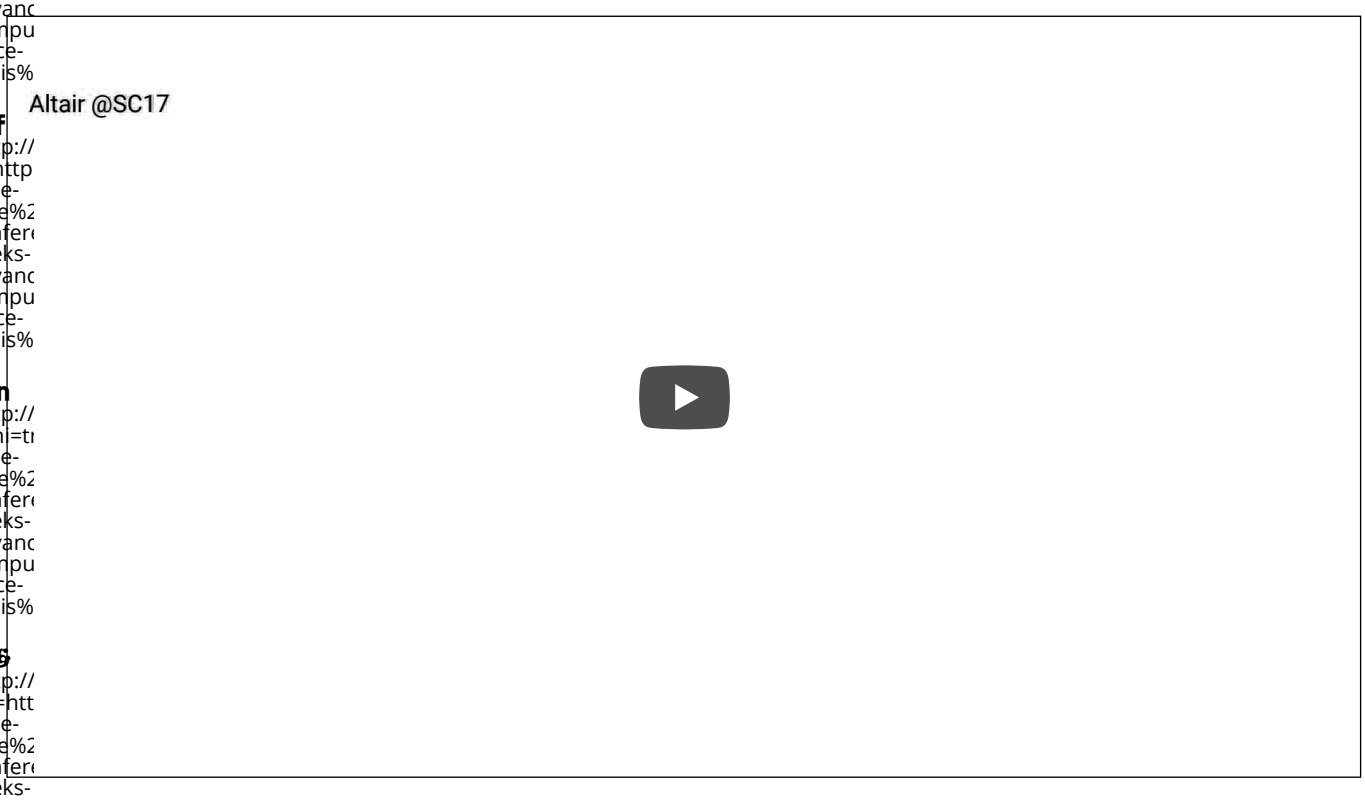
(http://www.linkedin.com/shareArticle?mini=true&url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Ffostering-lustre-advancement
ntributions%2F&title=Fostering%20Lustre%20Advancement%20Through%20Development%20and%20Contributions&source=https%3A%2F%2F
https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Ffostering-lustre-advancement-development-contributions%2F&title=Fostering%2
=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Ffostering-lustre-advancement-development-contributions%2F)

SC17 Booth Video Tours Playlist (https://www.hpcwire.com/sc17-booth-video-tours/)



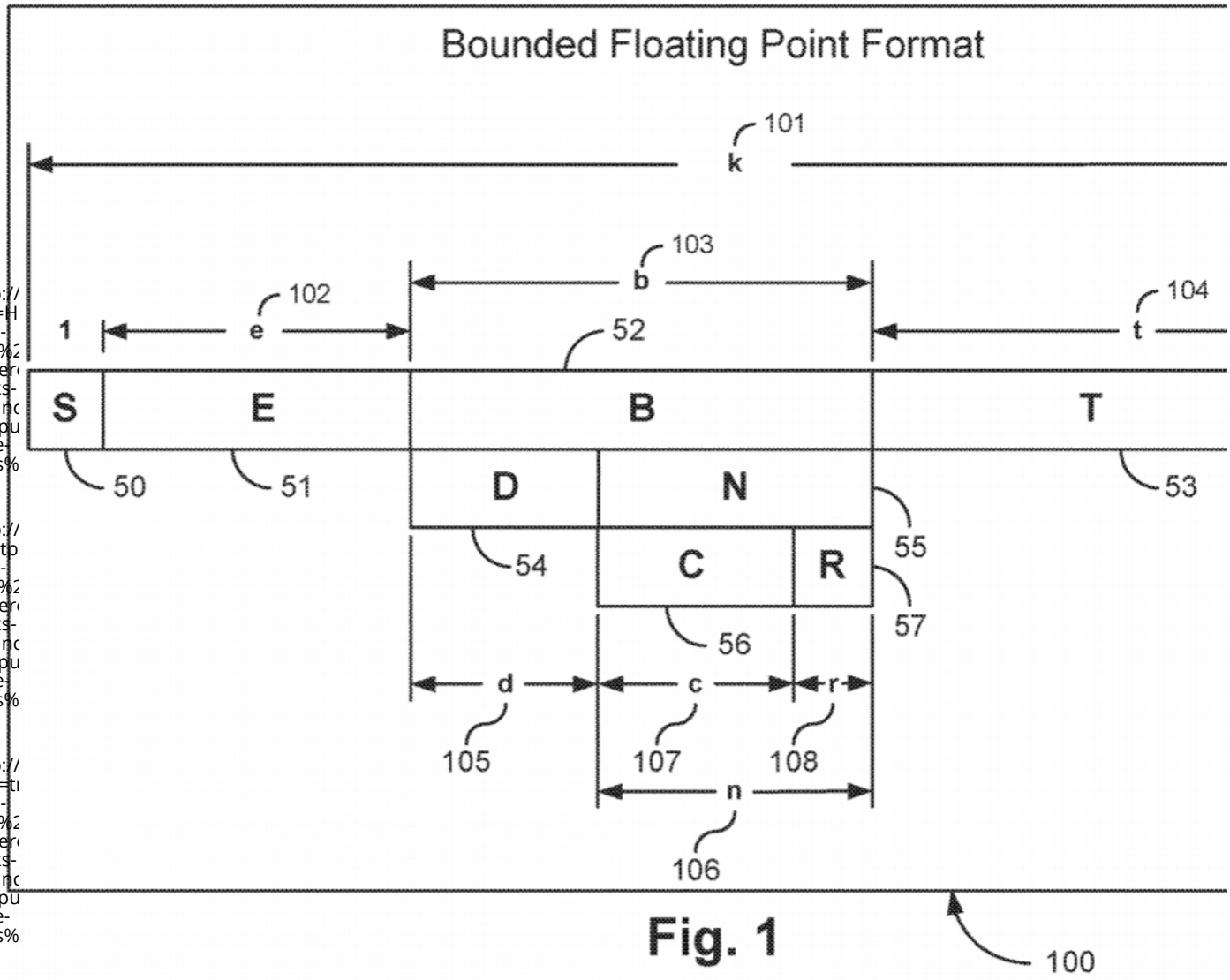


Fig. 1

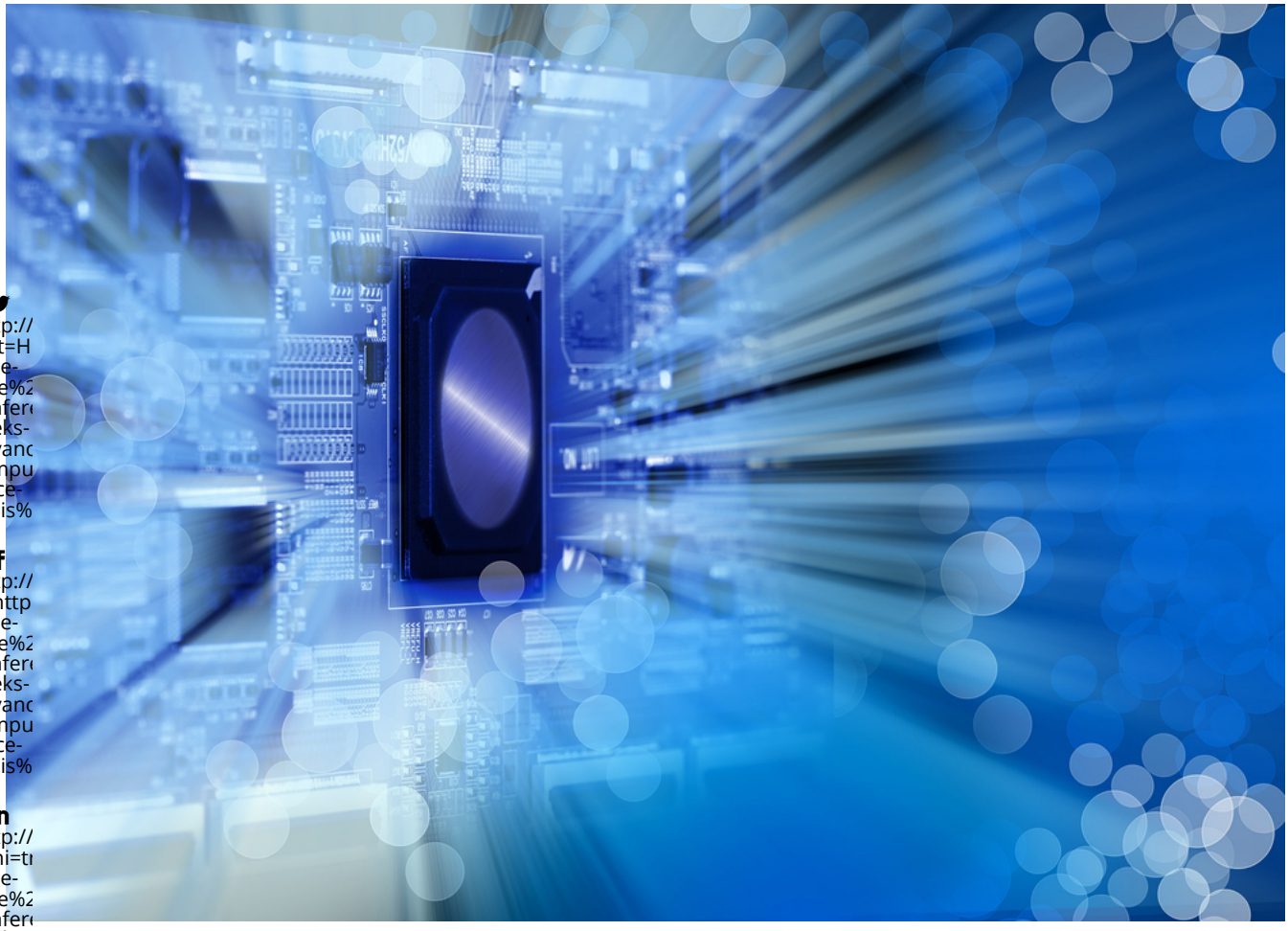
Inventor Claims to Have Solved Floating Point Error Problem

(https://www.hpcwire.com/2018/01/17/inventor-claims-solved-floating-point-error-problem/)

The decades-old floating point error problem has been solved," proclaims a press release (http://www.boundedfloatingpoint.com/PressRelease_011718.pdf) from inventc (https://www.hpcwire.com/2018/01/17/inventor-claims-solved-floating-point-error-problem/)

By Tiffany Trader

(http://twitter.com/intent/tweet?status=Inventor%20Claims%20to%20Have%20Solved%20Floating%20Point%20Error%20Problem+https%3A%2F%2Fwww.hpcwire.com%2F2018 floating-point-error-problem%2F) (http://www.linkedin.com/shareArticle?mini=true&url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2 error-problem%2F&title=Inventor%20Claims%20to%20Have%20Solved%20Floating%20Point%20Error%20Problem&source=https%3A%2F%2Fww (http://www.facebook.com/sharer/sharer.php?u=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Finventor-claims-solved-floating-po problem%2F&title=Inventor%20Claims%20to%20Have%20Solved%20Floating%20Point%20Error%20Problem/) (https://plus.google.com/share url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F17%2Finventor-claims-solved-floating-point-error-problem%2F)



SRC Spends $200M on University Research Centers

(https://www.hpcwire.com/2018/01/16/src-spends-200m-university-research-centers/)

The Semiconductor Research Corporation, as part of its JUMP initiative, has awarded $200 million to fund six research centers whose areas of focus span cognitive com communications, nanotechnology, and more. Read more… (https://www.hpcwire.com/2018/01/16/src-spends-200m-university-research-centers/)

By John Russell

US Seeks to Automate Video Analysis

(https://www.hpcwire.com/2018/01/16/us-seeks-automate-video-analysis/)

U.S. military and intelligence agencies continue to look for new ways to use artificial intelligence to sift through huge amounts of video imagery in hopes of freeing analyst better use. Read more… (https://www.hpcwire.com/2018/01/16/us-seeks-automate-video-analysis/)

By George Leopold

(http://twitter.com/intent/tweet?status=US%20Seeks%20to%20Automate%20Video%20Analysis+https%3A%2F%2Fwww.hpcwire.com%2F201 analysis%2F) (http://www.linkedin.com/shareArticle?mini=true&url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F16%2Fus-seeks- analysis%2F&title=US%20Seeks%20to%20Automate%20Video%20Analysis&source=https%3A%2F%2Fwww.hpcwire.com/) (http://www.faceb u=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F16%2Fus-seeks-automate-video-analysis%2F&title=US%20Seeks%20to%20Automate (https://plus.google.com/share?url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F16%2Fus-seeks-automate-video-analysis%2F)

A Close-Up Look at the World's Largest HPC System for Commercial Research

(https://www.hpcwire.com/2018/01/14/close-look-worlds-largest-hpc-system-commercial-research/)

For decades, high performance computing has driven more accurate, detailed and faster seismic exploration. As oil and gas have becomes harder to find, HPC has been nt where new discovery and extraction techniques have driven up supply, driving energy prices down and making the United States a net energy exporter. Read more. (https://www.hpcwire.com/2018/01/14/close-look-worlds-largest-hpc-system-commercial-research/)

By Doug Black

(http://twitter.com/intent/tweet?status=A%20Close-Up%20Look%20at%20the%20World%E2%80%99s%20Largest%20HPC%20System%20for%20Commercial%20Research+https%3A%2F%2Fwww look-worlds-largest-hpc-system-commercial-research%2F) (http://www.linkedin.com/shareArticle?mini=true&url=https%3A%2F%2Fwww.hpcwir worlds-largest-hpc-system-commercial-research%2F&title=A%20Close-Up%20Look%20at%20the%20World%E2%80%99s%20Largest%20HPC%20System%20for%20Commercial%20Research&source=https%3A%2F% (http://www.facebook.com/sharer/sharer.php?u=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F14%2Fclose-look-worlds-largest-hpc-syst research%2F&title=A%20Close-Up%20Look%20at%20the%20World%E2%80%99s%20Largest%20HPC%20System%20for%20Commercial%20R url=https%3A%2F%2Fwww.hpcwire.com%2F2018%2F01%2F14%2Fclose-look-worlds-largest-hpc-system-commercial-research%2F)

URISC@SC17 and the #LongestLastMile

(https://www.hpcwire.com/2018/01/11/uriscsc17-and-the-longestlastmile/)