Lumerical’s 2019a Release Delivers Enhanced Productivity for Photonic Designers

*Advances state of the art, enables designers to start closer to the finish line*

VANCOUVER, British Columbia (PRWEB) November 21, 2018 -- Lumerical Inc., (https://www.lumerical.com) a leading developer of photonic design and simulation tools, announced the 2019a release of its industry leading photonic simulation tools FDTD Solutions, MODE Solutions, DEVICE and INTERCONNECT. With this release, Lumerical delivers increased productivity to photonic designers by implementing new, state-of-the-art capabilities within its tools, releasing an easily accessible and broad set of project templates in its Application Gallery for designers to get up and running quickly when facing their next design challenge, and enabling advanced design flows within the integrated photonic ecosystem.

Advancing the state of the art

Through its relentless drive to be best in class, Lumerical has again delivered a broad range of state-of-the-art features to meet challenging customer requirements for performance, usability and accuracy. Notable features include:
- refractive index material data import from online sources to increase usability and accuracy;
- harmonic inversion analysis of time signals to greatly reduce simulation time for many FDTD and DGTD simulations;
- S-parameter analysis with automatic symmetry detection to eliminate unnecessary simulations and speed compact model development;
- automatic IV curve tracing for efficient and stable simulation of next generation photodiodes such as APDs;
- support for Intel MPI to increase simulation speed through optimal use of high core count workstations; and
- new initial conditions for the powerful DGTD solver to enable a broader range of applications including modal extraction for plasmonic and metamaterial devices.

“When you are creating advanced applications such as mixed reality, you must work with tools you can trust, and with a vendor that is dedicated to your success,” said Reza Khorasaninejad, Senior Optical Engineer at Magic Leap. “Not only does Lumerical help assure success on our current design, they listen to their customers for further development of their tools. Lumerical’s advanced and easy to use solvers combined with their high-quality support has resulted in significant cost and time savings in our design cycles and I strongly recommend them.”

Quicker results via the new Application Gallery

The new Application Gallery available within Lumerical tools includes proven design and optimization examples for applications including grating couplers, ring modulators, photonic resonators, CMOS image sensors, and many more. The applications provided enable photonic component designers to take advantage of validated examples, delivered in-product, providing them with a significant head start in their design work. Each example in the Application Gallery takes advantage of the latest release 2019a features and includes models, schematics and associated scripts that can be modified to design and optimize the ideal component for the designer’s application much faster than the traditional start from scratch approach. Designers uniquely benefit from the in-product discovery and download of these examples that target typical, key use cases, and are seamlessly delivered to the product via a web-based delivery mechanism.
“Lumerical is laser focused on supporting our customers and we fully appreciate that they are highly engaged with us. We hear them loud and clear as they encourage us to continue pushing the envelope on what is possible in photonic design. The development of the new advanced capabilities and the Application Gallery are a direct result of responding to our customers’ key requests for assistance in doing their jobs better and faster,” said Lumerical CTO James Pond.

Ecosystem design flows support photonic integrated circuit (PIC) designers

The new INTERCONNECT-Tanner interoperability option available with the 2019a release enables a design flow familiar to Tanner users. Circuit designers can now work with validated Mentor foundry process design kits (PDKs) paired with associated INTERCONNECT compact model libraries (CMLs) to achieve a closed loop design cycle. This flow includes circuit layout in Tanner L-Edit Photonics complemented by Mentor’s new LightSuiteTM Photonic Compiler, physical verification with Calibre eqDRC, and circuit simulation with INTERCONNECT. Used in conjunction with the recently released TowerJazz PH18 PDK or Mentor’s GPIC iPDK, this flow provides an invaluable resource for PIC designers to tape-out faster with predictable results and for PDK developers.

Lumerical’s 2019a release enhances support within the Cadence® Virtuoso® ADE Explorer for streamlined electro-optical simulation. The new release enhances the transient co-simulation capabilities for electro-optical integrated circuits and provides a new frequency response analysis solution for such designs. In addition, a new PDK verification feature assures PDK quality by checking consistency of the PDK components across files used in the Lumerical/Cadence EPDA flow. It also enables Lumerical customers to take advantage of Cadence’s recently announced Virtuoso CurvyCore™ infrastructure, immediately upon its release. The 2019a release further enhances the industry-leading EPDA design flow that offers dedicated photonic simulation with INTERCONNECT and electronic-photonic co-simulation when used in conjunction with Cadence Spectre AMS Designer.


About Lumerical

Lumerical develops photonic simulation software – tools which enable product designers to understand light, and predict how it behaves within complex structures, circuits, and systems. Since being founded in 2003, Lumerical has grown to license its design tools in over 50 countries and its customers include 10 of the top 15 companies in the S&P 1200 Global IT index, and 46 of the top 50 research universities as rated by the Times Higher Education rankings. Lumerical’s substantial impact on the photonic design and simulation community means its tools are among the most widely cited in the scientific press, with references in more than 10,000 scientific publications and patents. Lumerical enables its customers to achieve more with light and establish a leading position in the development of transformative technologies employing photonics.
Contact Information
Rich Goldman
Lumerical Inc.
http://www.lumerical.com
+1 (604)733-9006 Ext: 220

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