



## WEBINARS

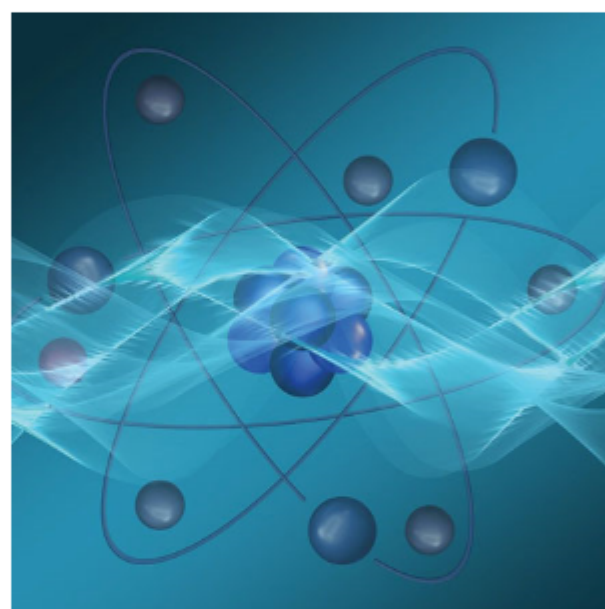
Join us for a **FREE Webinar**

# Advancing Quantum and Nano-Photonics with Machine Learning

**Wednesday, November 1, 2023 1:00 PM - 2:00 PM EDT**

[Register Now](#)

The discovery of unconventional optical designs via machine learning promises to advance on-chip circuitry, imaging, sensing, energy, and quantum information technology. In this talk, Alexandra Boltasseva of Purdue University discusses photonic design approaches and emerging material platforms for showcasing machine learning-assisted topology optimization for optical metasurface designs with applications in thermophotovoltaics, reflective optics, quantum photonic circuitry, and lightsail technology. She demonstrates the effectiveness of autoencoders for compressing the vast design space of metasurfaces into a smaller search space. By employing global optimization via adjoint methods or quantum annealing, one can find the optimal metasurface designs within the smaller space constructed by the autoencoder. The techniques employed in this work extend well beyond the metasurface optimization space and into many inverse design problems for engineering and physics. Machine learning approaches are also applied to advance quantum measurements and superresolution imaging.



## More from Photonics Media

### Upcoming Webinars

- [Lock-in Amplifier or Boxcar Averager? Choosing the Right Measurement Tool for Periodic Signals](#), 11/2/2023 10:00:00 AM EDT

### Archived Webinars

- [Advancing and Extending the Spectral Range for Imaging in Fluorescence Microscopy](#)
- [NXT Stop, Malibu: Fast and Easy AI Machine Vision](#)
- [New Frontiers in Terahertz Technology](#)

### Don't miss out!

Sign up for our [Webinar Alerts](#) email today and never miss an upcoming event.

We respect your time and privacy. You are receiving this email because you are a Photonics Spectra magazine subscriber. You may use the links below to manage your subscriptions or contact us.

Questions: [info@photonics.com](mailto:info@photonics.com)

[Unsubscribe](#) | [Subscribe](#) | [Subscriptions](#) | [Privacy Policy](#) | [Terms and Conditions of Use](#)

Photonics Media, 100 West St., PO Box 4949, Pittsfield, MA 01202-4949

© 1996 - 2023 Laurin Publishing. All rights reserved. Photonics.com is Registered with the U.S. Patent & Trademark Office. Reproduction in whole or in part without permission is prohibited.



Laurin Publishing

PHOTONICS MEDIA