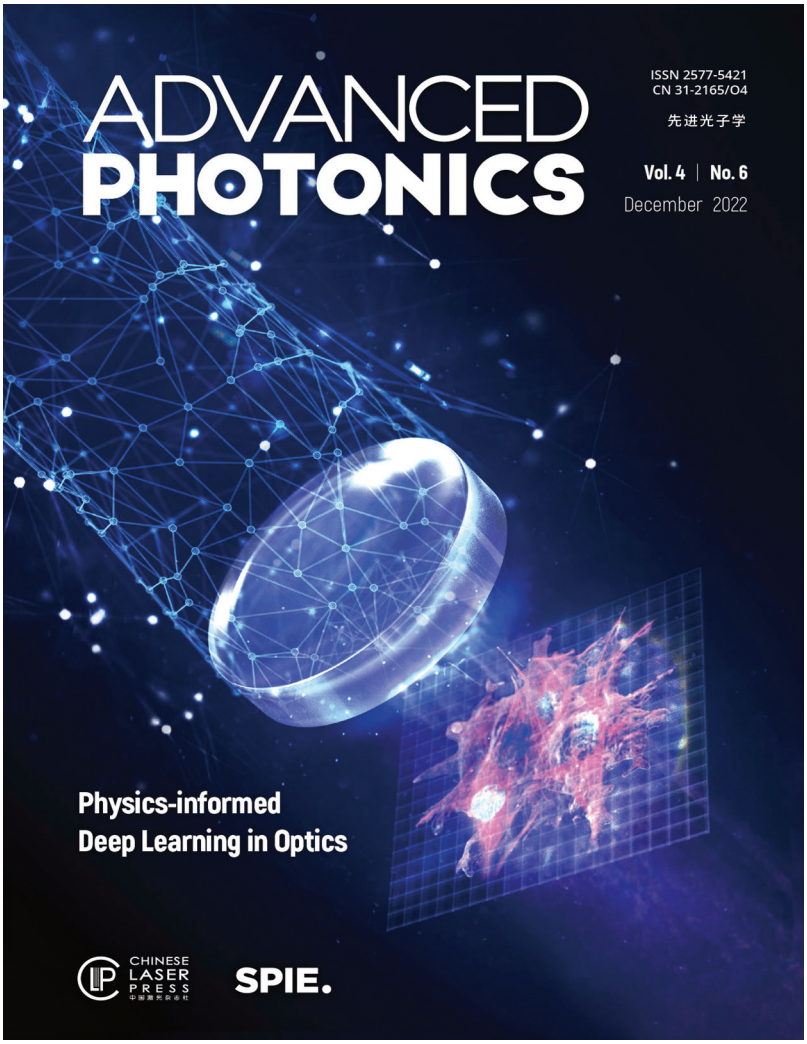

About the cover: *Advanced Photonics* Volume 4, Issue 6

Optical diffraction tomography is a three-dimensional (3D) imaging technique that reconstructs the refractive index distribution of the sample using scattered lights from different illumination angles. Researchers from École Polytechnique Fédérale de Lausanne (EPFL) proposed a deep neural network to solve the optical scattering problem and used this neural network as a surrogate forward model in the iterative reconstruction of the optical diffraction tomography.

In their work, "Physics-informed neural networks for diffraction tomography," authors Amirhossein Saba, Carlo Gigli, Ahmed Ayoub, and Demetri Psaltis train a deep neural network using a physics-informed loss function. This neural network predicts the scattered light when given by the refractive index distribution as the input, and the calculation time by the proposed neural network is five orders of magnitude faster than the conventional finite element methods. The authors used this network as a forward model to reconstruct the 3D refractive index distribution based on the measured scattered fields in an iterative optical diffraction tomography approach.

The image on the cover for *Advanced Photonics* Volume 4 Issue 6 provides a visual representation of this physics-informed deep neural network used for 3D optical imaging.