



Ray Beausoleil

HP Fellow

HP Labs

Hewlett-Packard Company



Ray Beausoleil leads the Large-Scale Integrated Photonics research group at HP Labs, where he is responsible for research on the applications of optics at the micro/nanoscale to high-performance classical and quantum information processing. Beausoleil has expertise in a variety of fields, including solid-state laser physics, nonlinear optics, quantum optics, quantum information science and technology, nanophotonics, embedded computer algorithms, and image processing. His team's current research includes projects on very large-scale integrated photonic interconnect networks; quantum technologies for post-"Moore's Law" computing; and advanced integrated optical sensors for information processing, environmental, and biomedical applications.

In 2002, Beausoleil joined the HP Labs Quantum Science Research group, initiating a world-class research and development effort in the field of photonics. With the help of HP Senior Fellow Stan Williams, Beausoleil created a new optics group and became the principle investigator on external federal research contracts worth over \$25M. Long a proponent of photonic application-specific integrated circuits (PhASICs) for IT applications, he was the key technical contributor to the launch of HP Lab's optical interconnects program.

Beausoleil joined HP Labs in 1996 after serving as an officer or director of R&D at three small companies in the laser and computer industries. Among his other accomplishments at HP, he invented the optical paper-navigation algorithms incorporated into the HP/Agilent optical mouse and now used in HP's Great Wall and Golden Gate Designjet large-format printers.

A Consulting Professor of Applied Physics at Stanford University, Beausoleil is also a Fellow of the American Physical Society "for contributions to basic research in nonlinear and quantum optics with applications to information technology." He has published over 300 papers and conference proceedings (including many invited papers and keynote/plenary addresses) and five book chapters. He has over 100 patents issued, and more than three dozen pending. Beausoleil received his B.Sc. (with Honors) in physics from the California Institute of Technology and both M.Sc. and Ph.D. degrees in physics from Stanford University.