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## NEWS RELEASE

For Immediate Release

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### *Jesper Glückstad Elected SPIE Fellow*



SPIE will honor 59 new Fellows of the Society this year. Fellows are members of distinction who have made significant scientific and technical contributions in the multidisciplinary fields of optics, photonics, and imaging. They are honored for their technical achievement, for their service to the general optics community, and to SPIE in particular. More than 600 SPIE members have become Fellows since the Society's inception in 1955.

"The annual recognition of Fellows provides an opportunity for us to acknowledge outstanding members for their service to the general optics community," says María Yzuel, SPIE President.

**Jesper Glückstad**, Danmarks Tekniske Universitet, Denmark, for achievements in generalized phase contrast. Glückstad is the first SPIE fellow to ever be elected from Denmark.

Glückstad's groundbreaking work on generalized phase contrast (GPC) methods improves upon the principle of phase contrast, which was pioneered by Frits Zernike. Glückstad removed constraints from the original concept, allowing for a highly efficient conversion of arbitrary spatial phase into intensity with a minimal loss of photons. These changes extend this important tool for microscopy, making GPC methods widely useful for many novel applications. The applications encompass diverse areas such as advanced user-controlled optical micromanipulation, optical phase-only cryptology, wavefront sensing, and integrated micro-optical implementations.

In particular, GPC-facilitated optical micromanipulation has been used to demonstrate the first real-time "drag-and-drop" 3D manipulation of a plurality of living cells. This work further led to the first demonstration of confinement as a determinant of growth in a microbial ecosystem. A large number of technologies benefit from this phenomenon, especially cancer and stem cell research, which will be undertaken in collaboration with leading U.S. and European research laboratories.

For this important work, Glückstad received the Danish Optical Society Award and was named "Scientist of the Year" by the Ib Henriksens Foundation in Denmark. He has contributed to societies around the world, and with SPIE Glückstad has been quite active having served on many program committees.

**SPIE** is the international optics and photonics society, founded in 1955 to advance light-based technologies. Serving more than 188,000 constituents from 138 countries, the Society advances emerging technologies through interdisciplinary information exchange, continuing education, publications, patent precedent, and career and professional growth. SPIE annually organizes and sponsors approximately 25 major technical forums, exhibitions, and education programs in North America, Europe, Asia, and the South Pacific. In 2008, the Society provided \$1.9 million for scholarships, grants, and other activities supporting research and education around the world. For more information, visit [SPIE.org](http://SPIE.org).