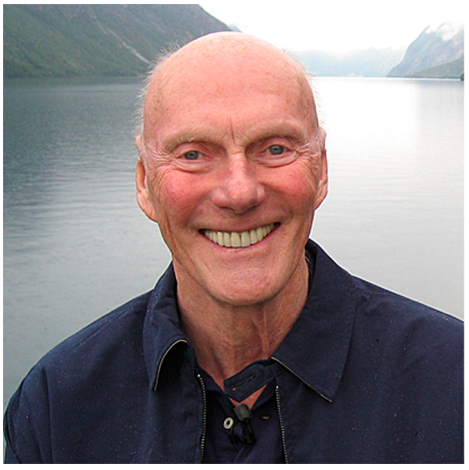
Celebrating Fred Kavli (1927–2013) and the Kavli Prizes in Nanoscience

This month in Oslo, we celebrate Fred Kavli and his legacy, including awarding this year's Kavli Prizes. I had the pleasure of knowing him and of having his support, personally and passionately, as well as through the Fred Kavli Chair in NanoSystems Sciences at UCLA that I have held for the last five years. Fred Kavli often said that he supported fundamental science "from the largest to the smallest to the most complex", referring to astrophysics, nanoscience, and neuroscience, respectively. He saw the promise of exploring these fields and the impact this research could have on the world. In addition to awards and chairs, his foundation also supports institutes in these areas around the world, prestigious lectureships, and outreach to explain our work and to garner public support for basic research. We already find heightened awareness of what we do because of these efforts. The BRAIN Initiative in the United States was a result of the efforts organized by the Kavli Foundation, as previously described and laid out in *ACS Nano*.[1−3] We are sorry to have lost the champion behind all these efforts, Fred Kavli, who passed away last year. This year's prize celebrations in Oslo were the first without him and the difference was palpable.



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Fred Kavli (1927−2013) was a champion of nanoscience and other basic research.

This year's Kavli Prize in Nanoscience was shared by three scientists who advanced our ability to see at the nanoscale.[4] Whereas previous winners built and described zero-, one-, and two-dimensional materials,[5−9] this year's laureates were on the measuring side of nanoscience. Prof. Thomas Ebbesen, of the Institut des Sciences et Ingénierie Supramoléculaires (ISIS) at the University of Strasbourg, showed how surprisingly efficiently light can be transmitted through subwavelength holes. He spent several years after the initial observation to explain the role of surface plasmons in this process. Dr. Stefan Hell of the Max Planck Institute for Biophysical Chemistry at Göttingen proposed and developed super-resolution optical microscopy based on selective stimulated depletion of chromophores. Sir John Pendry of Imperial College London showed the effects of and motivated work to create metamaterials with negative indices of refraction. All three are frequent *ACS Nano* authors. During their award addresses, this year's nanoscience laureates, as well as those in astrophysics and neuroscience, emphasized the importance of persistence in bringing their science to fruition over years and even decades. Look for a more detailed description of the extraordinary work of the nanoscience laureates and its impact in an upcoming issue.

This month in Oslo, we celebrate Fred Kavli and his legacy, including the Kavli Prizes.

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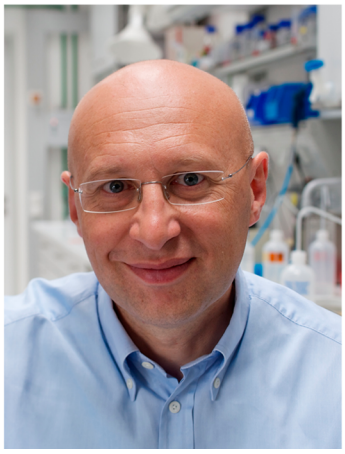


PHOTO CREDIT: CAROLINE SCHRÖDER/UNISTRA, BERND SCHULLER, AND IMPERIAL COLLEGE LONDON/MIKE FINN-KELCEY, RESPECTIVELY

The 2014 Kavli Prize Laureates in Nanoscience are Prof. Thomas Ebbesen of the University of Strasbourg, Dr. Stefan Hell of the Max Planck Institute for Biophysical Chemistry at Göttingen, and Sir John Pendry of Imperial College London.

Disclosure: Views expressed in this editorial are those of the author and not necessarily the views of the ACS.

Paul S. Weiss
Editor-in-Chief

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