

The Charles Hard Townes Distinguished Lecture

The Charles Hard Townes Distinguished Lecturer Award is given each year to honor the contributions which Dr. Charles H. Townes, a Nobel Prize winning American Physicist, who greatly enriched physics, his family, and his friends, and to recognize others who are making similar contributions. This is the inaugural award.

“From Charles H. Townes to Nonlinear Plasmonics”

Professor Norbert Kroó

*Wigner Physics Research Center
Hungarian Academy of Sciences*

7:00 PM, Tuesday, January 12, 2016

C&J Barbeque, 1010 S. Texas Ave. Bryan



Abstract: There has been a long way from masers to surface plasmons (SPO). And in this latter case the solution looks also for applications. SPO-s have numerous unique properties to be applied. In the present lecture mainly the EM field enhancement properties are explored. The SPO-s are excited with fs laser pulses in gold films in the Kretschmann geometry and when they decay, photons and electrons are emitted from the surface. A broad spectrum of phenomena is discussed from high harmonics emission and photon correlation properties to electron paining by SPO coupling and delayed photon emission. Some SPO mediated electron emission experiments are also presented. A short theoretical analysis, supporting our experimental findings is also given.

Biography: Prof. Dr. Norbert Kroó, Past Secretary General and Vice-President of the Hungarian Academy of Sciences (HAS), member of the Scientific Council of the European Research Council, was founding director of the Research Institute for Solid State Physics and Optics of HAS. He is Honoris Causa Professor Doctor of the Roland Eotvos University (H). He is the former president of the European Physical Society and member, honorary member or doctor of several distinguished scientific institutions and universities. (Academia Europaea, Spanish Royal Academy, Jordanian Royal Scientific Society, European Academy of Science and Arts, Euroscience, etc.). His latest decorations are: the Alexander von Humboldt Research Prize (D), the Wallis E. Lamb Award for Laser Physics and Quantum Electronics (USA), the Commander of the Order of the Lion Award (Finland), The Middle Cross with the Star (H) and the Hungarian Prima Primissima Prize for Science. He was member of the High Level Expert Group on Digital Libraries (EU) and the European Research Advisory Board, Chair of the Research Infrastructure Expert Group of the EU. His research fields: neutron physics, laser physics and quantum optics, plasmonics. He has published more than 300 papers, and is the owner of 40 patents.