

Vad händer inom **optiken** i Stockholm?

What happens in Stockholm in **optics** ?

**Thursday 7th December 17.30 – 20.30**

**RISE-Acreo, Electrum at Kista, Isafjordsgatan 22,  
Sal Knut, Plan 6**

***A bright future for Silicon quantum dots?***

***Frederico Pevere, Ph.D. Student, Applied Physics Department, KTH Royal Institute of Technology***

Silicon, the foundation material of electronics, is well-known to be an inefficient light-emitter due to its indirect bandgap. However, for silicon crystals of sizes below 10nm the quantum confinement effect can significantly increase the emission efficiency, thus supporting the application of silicon quantum dots (Si-QDs) in fields like biomedicine and photovoltaics. In this work, I will summarize what has been achieved so far as well as the future challenges that need to be addressed for silicon quantum dots (Si-QDs).

***Future TV-technology – High Dynamic Range and Virtual Reality***

***Kjell Brunnström, Ph.D. Technical Area Manager Visual Media Quality, RISE-Acreo, Adjunct Prof. Mid Sweden University***

Kjell Brunnström is an expert in image processing, computer vision, image and video quality assessment having worked in the area for more than 25 years, including work in Sweden, Japan and UK. He has written a number of articles in international peer-reviewed scientific journals and conference papers, as well as having reviewed a number of scientific articles for international peer-reviewed journals e.g Journal of Optical Society of America and SPIE Optical Engineering. His current research interests are in video assessment both for 2D and 3D, as well as display quality related to the TCO requirements. The talk will follow by some demos.

***Followed by Optopub 19:00-20:30, ADOPT, Linné center i Modern Optik och Fotonik, invites everyone who pre-registered for food and beverages.***

***OBS: Preregistration for participation and food at:***

***<https://doodle.com/poll/t6gk6c793dxidb3h>***

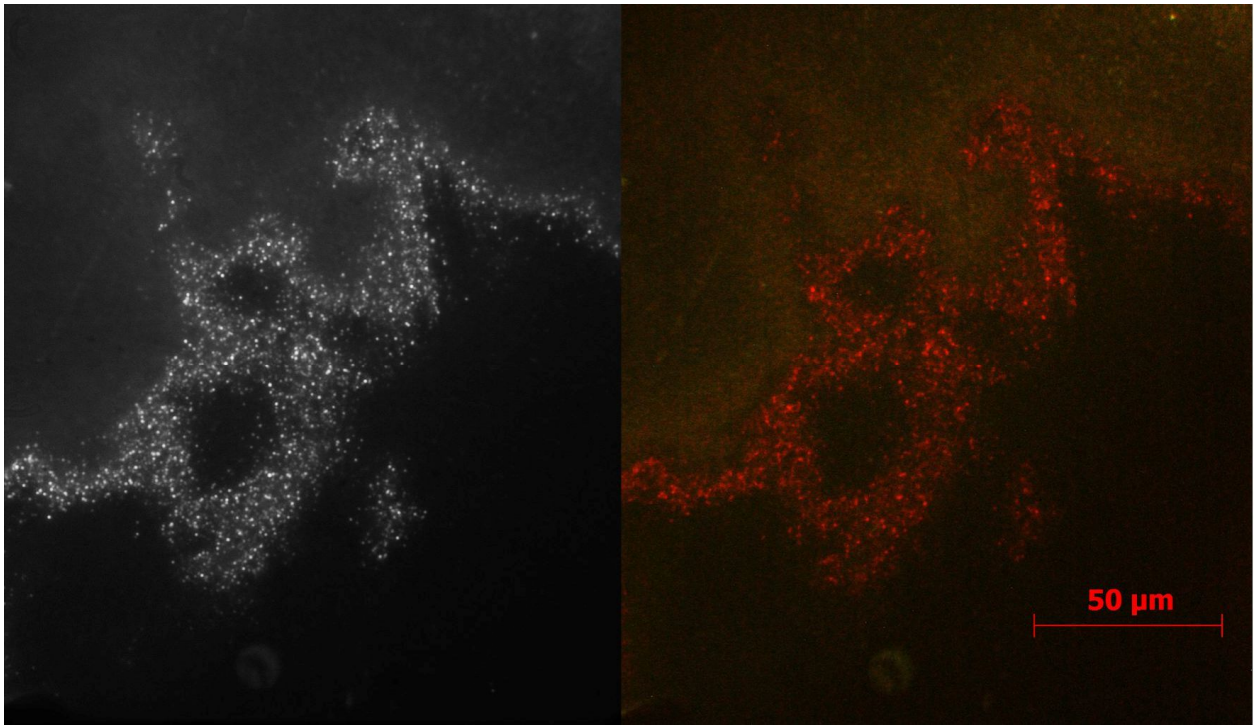
**before kl.14:00 on Wednesday 6th December !!!**

***Welcome!***

*Lennart BM Svensson  
Jens A Tellefsen, Jr*

*Gunnar Björk  
Fredrik Laurell*

*Optopubs are co-arranged by*



**Image caption:** Photoluminescence images of silicon nanocrystals under UV excitation. (left) Intensity image from an electrically cooled EMCCD camera and (right) real-coloured image acquired by a standard CCD camera. Many nanocrystals can be resolved in both images and form a “red-glowing nanocrystal-creature”. Although not shown by PL images but movies instead, some of these NCs randomly switch between ON (bright) and OFF (dark) states over time, thus animating our little creature. Frederico Pevero