



# SOS

Svenska OptikSällskapet  
Swedish Optical Society  
the Swedish Branch of the European Optical Society



Vad händer i Stockholm inom **optiken**?

Välkommen på ett **kvällsseminarium** under ca. en timmes tid

**Torsdagen den 15 december 17.30 – 18.30**

**KTH-Kista, Isafjordsgatan 22, Electrum  
plan 3, section C, FMI seminar room**

*Professor Hans Ågren, Theoretical Chemistry department, KTH*

### ***Modeling of Electro-Optical Switching of all-organic Guest-Host Polymer Systems***

I will discuss the concept of quantum mechanics (QM) - molecular mechanics (MM) response theory for calculations of linear and non-linear optical (NLO) properties, like hyperpolarizability, second harmonic generation, Pockels and Kerr effects and two-photon absorption. Some applications will be considered: chromophore - polymer guest-host systems for electro optical switching. The systems include amorphous polymers doped with dipolar chromophore molecules with strong non-linear optical response. We consider electric field poling effects, electric field induced second harmonic generation (EFISH) of the dipolar chromophores, and the electro-optic coefficient of the polymeric systems. Two prototype examples are also discussed: 1. benchmarks on the electric field poling effect on dipolar and octupolar chromophore molecules in solution; 2. the NLO and EO properties of Disperse Red chromophore molecules doped in Poly (methyl-metacrylate) and polycarbonate chromophores in Lemke polymers.

*Prof. Bertil Thorngren, HandelsHögSkolan research institute, Stockholm*

### ***Research in Optics in dynamic marketing conditions***

Implementation of solutions in Optics has increasing impact on the development of closely related technical branches. One of the handy examples is G4 communication networks which provide significant increase of the transmission capacity between base stations. As an opposite influence, rapid development of the DSL technique in combination with diverse regulations has somehow pressed the interest for investing in optical telecom. How to properly choose projects and establish collaboration within complex ecosystems? That is the question...

följt av

**OPTOPUB 18.30 –20.00**

för alla som vill prata optik och fotonik eller annat

***OBS!! Alla som föranmält sig bjuds på mat av:  
ADOPT, Linné center i Modern Optik och Fotonik.***

**Viktigt: Föranmälan till [sergeip@kth.se](mailto:sergeip@kth.se) för mat!!!**

**Senast onsdag 14/12 före kl.11:00 !!!**

*Sergei Popov  
Lars Thylén*

*Saulius Marcinkevicius  
Ari T. Friberg*