Seminar über Biomedizinische Photonik

Referent/in: Katarina Zikic, Faculty of Physics, University of Belgrade,
Belgrade, Serbia

Titel: Fluorescence steady-state and time-resolved study of nanoprobe
in different environments.

The thesis aims to examine the radiation dynamics of nanoprobe (Rhodamine
6G and rare-earth fluorophores) in different environments and in the presence
of metallic gold particles. The obtained results show that the increase of the
concentration in the case of the R6G probe in all solvents leads to a redshift
and an increase in the decay time. Surprisingly, the rare-earth fluorophore
exhibits a very weak fluorescence response in the visible range. Adding the
AuNPs to the R6G solutions in water showed a quenching effect on the
fluorescence. Furthermore, by changing the parameters of the laser, a Lasing effect of the
R6G was observed at specific concentrations. Further experiments and
theoretical analysis are in progress.

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Bern, Schweiz