

פרופסור ארג'ון יוד

פרופסור ג'יימס סקינר למדעים, מנהל המעבדה למחקר מבנה החומרים
המחלקה לפיזיקה ואסטרונומיה, אוניברסיטת פנסילבניה, פילדלפיה, ארה"ב

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Lecture | הרצאה

BIOPHOTONICS WITH DIFFUSING LIGHT

Functional diffuse optical monitoring of tissue is gaining momentum as a diagnostic in a variety of medical scenarios including functional activation and clinical studies of brain, cancer imaging and cancer therapy monitoring, and investigation of muscle disease. I will review the general problem of spectroscopy and imaging with diffuse light. Then I will describe some recent biophotonics research from my lab that is oriented towards non-invasive monitoring of cerebral hemodynamics in adult/pediatric populations through intact skull and towards imaging cancer.

The lecture will be held on Sunday,
6 March 2016, at 14:15, room 315,
Multidisciplinary Research Building,
Tel-Aviv University, Ramat-Aviv

ההרצאה תתקיים ביום ראשון,
6 במרץ 2016, בשעה 14:15, חדר 315,
בבניין הרב תחומי למחקר בהנדסה ומדעים,
אוניברסיטת תל-אביב, רמת-אביב

Lecture | הרצאה

VARIATIONS ON THE COFFEE RING EFFECT: SHAPE DEPENDENT CAPILLARY INTERACTIONS

The famous "coffee ring" effect will be described, and then I will show how one can make the effect "disappear" by replacing colloidal spheres with ellipsoids in the drying droplet. The role of particle shape can be understood, at least partially, to be a result of capillary interactions which are comparatively strong for ellipsoids compared to spheres. Then I will discuss evaporation of colloidal droplets in confined geometries (i.e., rather than the sessile drops), which is influenced by the rigidity of monolayer particle membranes (and the effect of particle shape on this rigidity), and I will describe measurements of particle growth profiles at the drop edge which are sometimes described by KPZ models, depending on capillary interaction strength. If time is sufficient, I will describe related drying processes in colloidal droplets with surfactants.

The lecture will be held on Thursday,
10 March 2016, at 10:00, Ephraim Katzir
Biotechnology Club, Green Building,
Tel-Aviv University, Ramat-Aviv

ההרצאה תתקיים ביום חמישי,
10 במרץ 2016, בשעה 10:00,
מועדון אפרים קציר, בניין גרין לביוטכנולוגיה,
אוניברסיטת תל-אביב, רמת-אביב