Mini course on Coherent Anti-Stokes Raman Scattering (CARS) microscopy

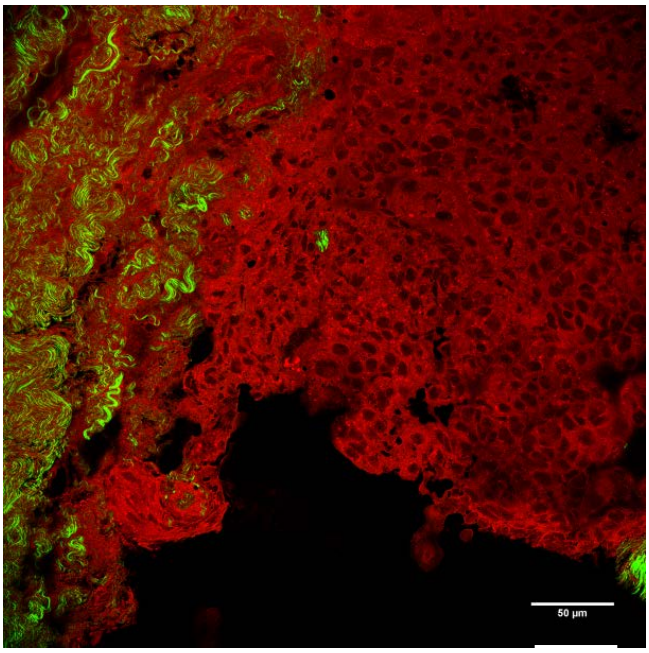

Figure 1 CARS of human skin

We would like to offer a mini hands-on workshop on CARS microscopy for PhD students and SDU staff. The course is one day course and includes theory introduction (2hours) and lab exercises (4 hours). After the course participants will be able to work independently on the Leica SP8 microscope at DaMBIC (Danish Molecular Biomedical Imaging Center, www.dambic.dk), SDU.

Workshop corresponds to 0.5 ECTS.

Max. number of participants: 4.

Date: 31.08.2017, Registration deadline 10.08.2017

For non-SDU participants price: 1000 DKK

Teacher responsible Jonathan R. Brewer (brewer@bmb.sdu.dk)

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CARS is a label-free imaging technique that is capable of real-time, non-perturbative examination of living cells and organisms based on molecular vibrational spectroscopy.

The advantages of CARS are:

1. Label-free method.
2. More sensitive than spontaneous Raman microscopy.
3. Easily detected in the presence of one-photon fluorescence.
4. Penetrate to depths of nearly 0.4 mm, allowing imaging in thick tissues.
5. Low photodamage.

Applications:

- Lipid imaging
- Mapping out protein distributions in tissues and cells
- Diffusion of water and drugs
- Visualization of chemical composition of polymer films

Reference: Annu. Rev. Anal. Chem. 2008. 1:883–909