

## **Tomographic diffraction microscopy**

Up to our understanding, in biology and related biomedical fields, the demand for a non-staining, high-resolution microscopic technique is eminent. Tomographic diffractive microscopy (TDM) is one of such emerging approach, which allows one to have a quantitative 3D complex refractive index distribution of semi-transparent objects. It combines digital holography experiments with numerical reconstruction techniques. TDM was proposed by E. Wolf in 1969 aiming to upgrade the holography of Dennis Gabor into 3D, which is based on solving inverse scattering problems using Born/Rytov 1 st order approximations.