

World Summit on **ORGANIC AND INORGANIC CHEMISTRY**

September 12, 2022 | Webinar

**Interferences and dispersion of developable domains in Columnar Liquid Crystal (C<sub>8</sub>HET)****TAKALI Dalel***Laboratory of Physics of Nanostructured Materials, Tunisia*

We are interested by characteristic defects  $S_{1/2}$  in an optically anisotropic columnar liquid crystal (C<sub>8</sub>HET) where the growth of the columns develops cylinders or semi-spherical topology around a core of radius  $r_c$ . We are study the growth of an  $S_{1/2}$  defect in a columnar liquid crystal (CLC), the conversation of several director columns  $n$  carried by the directions of the columns ( $\text{div } n = 0$ ) gives structures in half-spheres. In the structure of the half-drop we compare the growth of the transverse radius  $R_t$  and the longitudinal radius  $R_l$  to discuss the topology of the structure. We show the existence of destructive fringes on the surface of the half-drop characterized by a black ring. Furthermore, we characterize the interference phenomena between the incident ray and the reflected one in tangential incidence on the surface of the half-drop by the localization of the interference field, the interfringe and the dispersion in polychromatic light.

**Biography**

Takali Dalel working as faculty of physics laboratory of physics of Nano structured materials, quantum and nonlinear optics, Tunisia. Her Research interests in Physics and fields of Chemistry.