

Seminar – Tuesday, 15th November – 11h00 -

Library Auditorium – NOVA School of Science and Technology, NOVA University Lisbon,
Campus de Caparica, 2829-516 Caparica, Portugal

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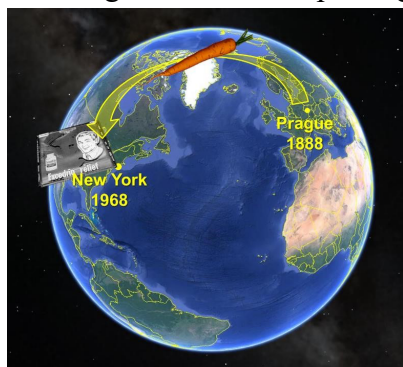
His current interests are the design and the optical properties of complex cholesteric liquid crystal structures, and biomimetic materials inspired from insect carapaces.

He is the inventor of patents and author of textbooks on liquid crystal science (Les cristaux liquides, Presses Universitaires de France, collection "Que Sais-Je ?").

The Odyssey of Liquid Crystals

The saga of liquid crystals research started in 1888 with the botanist Friedrich Reinitzer, who unexpectedly observed *two melting points* for crystals extracted from the root of a carrot. At the end of the nineteenth century, most scientists did not believe in the very existence of *liquid crystals* as promoted by the crystallographer Otto Lehmann.

Back to this pivotal period between the nineteenth and twentieth centuries: amazement, doubt, controversy, struggle, and acceptance were the great moments. A whole gallery of characters took part in the debate, and they will come to testify it: long and painful was the way towards the recognition of new states of matter. In the end, liquid crystals changed our vision by shattering the three-state paradigm.



This lecture is ultimately the story of a picturesque, space-time odyssey of a carrot from March 14th, 1888 at the German University of Prague to May 28th, 1968 at 11:00 AM, on the ground floor of 30 Rockefeller Center in New York, where RCA announced to sixty reporters a breakthrough in the field of liquid crystals and demonstrated prototypes of thin-screen devices of pictures and moving images. Thus started the revolution of worldwide information-display industry.

References:

- M. Mitov, *ChemPhysChem*, **15**, 1245 (2014); *Sensitive Matter*, Harvard Univ. Press (2012).
 D. Dunmur and T. Sluckin, *Soap, Science, & Flat-Screen TVs*, Oxford Univ. Press (2011).
 P. M. Knoll and H. Kelker, *Otto Lehmann*, Books on Demand GmbH, Norderstedt (2010).
 J. A. Castellano, *Liquid Gold*, World Scientific (2005).
 T. J. Sluckin et al., *Crystals That Flow*, Taylor and Francis (2004).
 H. Kelker, *Mol. Cryst. Liq. Cryst.*, **165**, 1 (1988); **21**, 1 (1973).

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