Editorial

About a summer-school
"Concepts and image interpretation in near-field microscopy"
Oléron, France (4-8 October 1991)

Over the last few years scanning tunnelling microscopy (STM) has emerged as the front runner of many kinds of microscopies without lenses, known as "scanning probe microscopies" or "near field microscopies". Parallel to the continuous progress in technology and performance, their field of applications has largely widened out to all kinds of situations involving surfaces in physics, chemistry or biology. However, many difficulties concerning image interpretation for this new class of instruments have not yet been solved.

A summer school devoted to the topic "Concepts and image interpretation in near field microscopy" has therefore been organized by the CNRS Research Group (GdR) "Near field microscopy" in the French island of Oléron from 4 to 8 october 1991. Its goal was to gather theoreticians and experimentalists concerned with the major problem of extracting the physical or chemical information from the images delivered by these instruments. Seventy participants originating from all active groups in France in this domain, in CNRS and University laboratories as well as in industrial research centers, attended a series of lectures covering the theoretical fundaments for the three most used techniques: tunnel microscopy, force microscopy, optical microscopy. Two classes were also devoted, one to the applications of the tunnel effect in the pre-STM ages, and the other to surface physics. The presentation of these theoretical approaches together with the ensuing discussions and debates emphasized the common concepts and the approximations involved. Theoreticians could compare their models and concepts, experimentalists could apprehend the accessible level of interpretation. Practical sessions on computers provided all participants with access to the presently available software for simulating images delivered by tunnel and force microscopes. The texts of the lectures will be shortly published by the *Editions de Physique*.

The organizers, again with the support of the CNRS GdR "Near field microscopy" plan to hold in 1992 a second school more specially devoted to the experimental aspects of these budding techniques. For more information, contact:

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