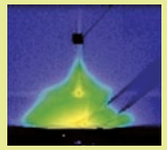

This is an impressive compendium of the work of Prof. Nicolini and others in the critical area of nanotechnology. Wide-ranging in its scope, it addresses the crucial junction between nanotechnology and biology. The label-free detection methods covered here will provide powerful new tools for understanding molecular interactions and the nanoscale materials will find far-reaching applications in both biology and engineering.

Prof Joshua LaBaer
Harvard Medical School, USA

Nanoscience and nanotechnology are developing at an ever increasing pace. This textbook on nanobiotechnology and nanobiosciences has been written by a true pioneer in these fields: Prof. Claudio Nicolini, who is currently heading the Nanoworld Institute in Genoa. It provides a unique personal perspective on nanoscale applications in fundamental and applied research.

Bottom-up and top-down approaches towards the production of nanoscale materials, relating to both organic and biological nanotechnology, are discussed in detail. The range of existing nanoprobes is discussed with an emphasis on applications in proteomics, biofilm formation and protein crystal growth. Advanced synchrotron radiation methods are also introduced, such as microbeam techniques for protein crystallography and grazing-incidence scattering.

This textbook contains numerous applications in health science and cell biology, as well as applied industrial research. The reader will find detailed discussions on fundamental R&D topics such as nanotemplate crystallization of proteins and cell nanobioscience, but also applied R&D such as organic or biological sensors and biocatalysis.

Dr Christian Riekel
European Synchrotron Radiation Facility, France

Claudio Nicolini is an outstanding expert in the field of biophysics and nanobiotechnology. His works include, developments of new methods of proteins crystallography, development of new types of biomolecular devices with the use of atomic-force microscopy and the study of the effects of carbon nanotube biocompatibility on cardiac muscle cells. In 2008, for merits in the area of nanobiotechnology, Nicolini was elected foreign member of the Russian Academy of Sciences.

Prof Mikhail P. Kirpichnikov
Lomonosov Moscow State University, Russia

Claudio Nicolini worked at Brown, MIT, and BNL in nuclear physics after receiving his doctoral degree from Padua University in 1967. After serving as Adjunct Professor in Bari University, he returned for 16 years in USA moving to Medicine at Temple University , where after intensive biomedical training and research he became Associate Professor OF Pathology and then Professor and Chairman of Biophysics in 1976. In 1984, he was called “per chiara fama” to the Chair of Biophysics of the University of Genoa, in Italy, where he is now Nanoworld Institute Director and Fondazione Elba President. In 2008 he has been elected as a Foreign Member of the Russian Academy of Sciences. He was Chief Editor of *Cell Biophysics*, Advisor to Italian Prime Minister, Member of the National Science and Technology Council, Director Industrial Consortium CIREF, Founder Technobiochip; President Polo Nazionale Bioelettronica - PST Elba. He received awards and prizes and authored more than 440 SCI publications, 32 patents, 27 books.

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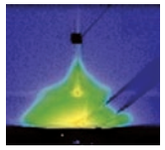
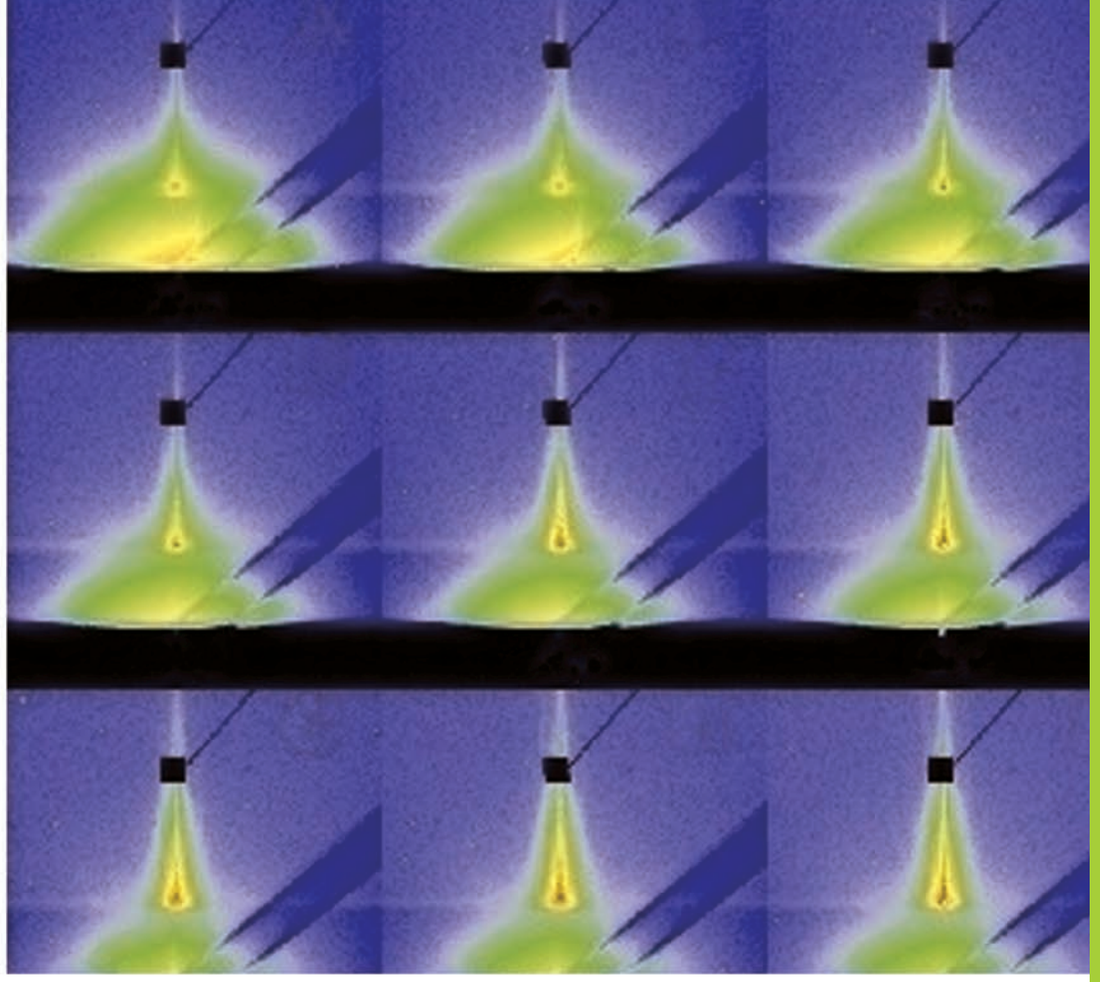


Nicolini



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