



# NCL Innovations

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## NCL Innovations **IDEA Catalyst** Workshop Series: 2<sup>nd</sup> Workshop

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This workshop series focuses on exploring  
technology development and commercialization  
opportunities by connecting scientists/  
technologists with people who understand market  
and industry needs.  
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## Technology Development Opportunities in Banknote Security and Materials

by

**Ms. Anuya Nisal**

Scientist, NCL, Pune

On

**Tuesday, 14 September 2010**

**2.30 – 4.00 pm**

at

Board Room, Director's Wing (tentative)  
National Chemical Laboratory  
Pashan Road, Pune – 411008

**Ms. Anuya Nisal**



Ms. Anuya Nisal  
Scientist, NCL, Pune

### *About the speaker*

Ms. Anuya Nisal is a Scientist in the Polymer Science and Engineering department at National Chemical Laboratory, Pune. Her expertise includes development of novel polymer blends and composites (nano), their structure property relationships and micro-analytical characterization techniques. She has also been actively involved in information research and technology assessment projects. She is part of the project team working with Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL) and Reserve Bank of India (RBI). The projects include a technical assessment of plastic banknotes and intellectual property landscaping for paper banknotes.

### *About the talk*

The process of banknote manufacturing currently used for Indian currency can be broadly classified into two steps – a) the production of the security paper incorporating embedded security features and b) security printing and finishing of the banknote. Each of this process can be divided into smaller technology modules, which have interdependencies and interlinkages. The objective of this talk is to briefly introduce the process of banknote manufacturing and also give a bird's eye view of the technologies presently available.

However, there is a need to constantly upgrade and develop novel materials and technologies that will improve the security of banknote and thus prevent counterfeiting. Also, considering the present monopoly (or oligopoly) of suppliers in the market and the high premium that they demand, indigenous technology development will be inevitable going forward. The talk shall end by stating emerging technology needs and development opportunities. The talk shall be followed by an extended discussion and brainstorming session.