

Exception defies the rule at Saha Institute

By KAUSHIK PRADHAN

Kolkata, Nov. 19: A scientific research conducted successfully in Kolkata not only received international acclaim but has every possibility to find major application in the industrial sector.

Scientists at Saha Institute of Nuclear Physics have proved that heating of a nanometre thick polymer film within a certain temperature leads to contraction as opposed to the thumb-rule that any material expands on receiving heat.

The research conducted by Prof Milan Sanyal and M. Bhattacharjee

will find use in the packaging industry. The study "Glass Transition in Ultra Thin Polymer Films: A Thermal Expansion Study" was published in "Physical Review" in April 2005.

Shedding light on the experiment, Prof Sanyal stated: "US carbon black manufacturing major Cabot Corporation has shown a keen interest in the study. They are interested in commercial use of the research finding. Discussions are on."

The duo explained that French scientist P.G. De Gennes, also a recipient of the Nobel Prize, in his

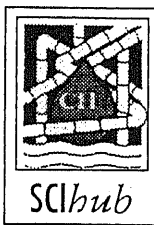
theory (Reptile Motion of Polymer) was the first to note that polymer molecules move like a reptile.

"That means molecules at the surface have lower melting point. Our findings established the theory," they explained.

Meanwhile, researchers at SINP's Surface Physics Division notched yet another milestone earlier this year when one of their research work was selected by "Physical Review" (American Physical Society journal) as the highlight of the year.

The paper, "Dramatic Enhancement of Capillary Wave Fluctuations of A Decorated Water Surface," was an Indo-French collaboration. The finding has every possibility of commercial use in setting up amusement water parks.

When contacted, SINP director Bikash Sinha added that the institute initiated steps to explore the commercial and industrial use of the findings. "Talks are on and we hope practical application of the findings are soon a reality. That we are autonomous organisation under the Union government, gives us the authority to take decisions on our own," he stated.



THE ASIAN AGE
20th Nov.2005