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Surface enhanced Raman scattering

The discovery of surface-enhanced Raman scattering spectroscopy (SERS) by Fleischmann and coworkers in 1974 at the University of Southampton has drawn a lot of attention of researchers due to the large enhancement of weak Raman signal and thereby facilitate convenient identification in chemical and biological systems. Later, with the advent of scanning probe microscopy (SPM) technique in the early 1980s and development of nanoscience and nanotechnology, SERS has become one of the powerful versatile analytical tools available both in surface chemistry as well as in electrochemistry with diverse application ranging from imaging, sensing to diagnostics. The SERS effect makes it possible as an *in situ* diagnostic probe for determining the detailed molecular structure and orientation of surface species applicable to electrochemical, biological and other ambient interfaces. Sur and Chowdhury (page 923) provide review on various aspects of SERS effect which includes historical background and its development, correlation with both electrochemistry and nanoscience, various SERS active substrates, the various theories that explain the mechanism of SERS and its various applications illustrating the versatility of this novel technique.

Re-emerging infectious diseases

‘Desire is the root of all sufferings’ holds well not only to human beings’ emotional need but also to our materialistic greed which has led us to our

present situation where we have exploited and abused most of the surface of the Earth. The attitude towards this issue is not to abuse more in the name of cure but should be ‘prevention’. Latest trends of green products, sustainability, carbon footprinting, organic farming should gain wide application to ameliorate the situation. Emergence of infectious disease is only one of the many neglected side effects of anthropogenic activity. Yale *et al.* (page 940) in their review article focus on multifarious anthropogenic activity that when discussed together emphasizes the gravity of what human beings have done. The article brings together for ease of the scientific community to express the need of hour. ‘*We have inherited an incredibly beautiful and complex garden, but the trouble is that we have been appallingly bad gardeners.*’ – Gerald Durrell

Coastal erosion

Goa is classified as one of the most famous tourist coasts of the world. In general, the sea front of Goa is characterized by wide, linear and scenic beaches backed by sand dunes and intersected by headlands that extend into the sea. Coastal zones of Goa are important as they are the main source of revenue for the state. Goa is heavily disturbed in the recent times due to the sudden boom of real estate sector, mushrooming of industries, inconsistent tourist flows, with a consequent impact on coastal ecosystems. A super tanker *MV River Princess* drifted ashore and grounded along Goa coast off Candolim in the early morning of 6 June 2000, due to

a cyclone. The wreck remained in place for 12 years. The coastal stretch from Candolim to Sinquerim lying to the south of the ship came under the grip of erosion since 2001 and severe erosion occurred here during the southwest monsoon periods of 2006, 2007 and 2008. The bathymetry of the beach has become irregular due to transient shoals and morphological changes and it poses hazards to the tourists who venture into the sea for swimming. Murali *et al.* (page 990) address a unique case where severe erosion was triggered by a grounded ship. The cause,



extent and rate of erosion just over a decade, as reported in the paper, present a unique scenario. The study analyses the extent of coastal geomorphological changes induced by the grounded ship *MV River Princess* on the Candolim–Sinquerim coastline. The dynamics behind erosion are discussed based on southwest and northeast monsoon wave patterns and alignment of the ship with respect to the shoreline. The saga of *MV River Princess* ended in April 2012. The wreck has been removed and is no longer seen above the sea level. Regular beach profile measurements which are being conducted along this coast would give information whether or not the beach will regain its past glory.