From Bench... to Bedside.....
FOREWORD

Recent years have witnessed a phase of rejuvenation and new resolutions for the Institute of Cytology and Preventive Oncology (ICPO), by shifting to its sprawling new campus at Noida, expanded research mandate and appointment of its first director after several years of uncertainty. I hope the institute will blossom under the new leadership.

ICPO which is one of the premier institute of ICMR dedicated to cancer research, has made significant contribution in the field of cervical cancer, a leading cause of morbidity and mortality among Indian women. ICPO has become a WHO and national referral centre for diagnostics and research in HPV, which has emerged as a causative agent for cervical cancer. Following signing of MOU between ICMR and Merck, ICPO should be able to carry forward the HPV vaccine trial in India. I am confident that the initiatives taken by ICPO scientists to develop DNA-based vaccine for India-specific HPV types will provide long-term benefits to Indian women and a great contribution to the society as a whole for the control of cervical cancer. It is also of great achievement that a natural antioxidant agent curcumin has been demonstrated to be an anti-HPV molecule which has gone for multi-centric clinical trial.

I am delighted to note that considering the recent scientific advances in the field of cancer research, ICPO has taken initiatives to strengthen its major research programs by creating new areas of research activities, such as Vaccinology, Bioinformatics & Drug Designing, Behavioral Oncology, and Cellular and Molecular Diagnostics. This is truly a commendable exercise and would go long way to meet the international standards.

I am convinced that the institute will soon prosper as a center of excellence and perform pioneering cancer research which will have direct benefit to the community. I wish the scientific and administrative staff and students of the institute a great success in all their endeavors.

(N.K. Ganguly)
Director General
Transformation.......
ICPO – The Eight Commandments

1. Multidisciplinary high quality research in major cancers of the country with special reference to cancers of uterine cervix, breast and oral cavity

2. To promote clinico-epidemiological cancer research to determine social, environmental and genetic factors underlying the high prevalence of these cancers in the country.

3. Undertake research for the development of preventive and therapeutic approaches for cost-effective management of cancer and their implementation in the hospital / community settings

4. Community intervention studies for major cancers through health system research with emphasis on primary and secondary prevention.

5. To study behavioral and psychosocial parameters in cancer patients and to offer counseling

6. Augment human resource development in various specialties of oncology through formal and informal training courses and related academic programs

7. To provide specialized diagnostic referral services

8. To organize early detection camps and campaigns to increase cancer awareness and to provide cancer detection facility to the community
It gives me great pleasure to present the Annual Report of the Institute of Cytology and Preventive Oncology (ICPO) for the year 2003–04 and 2004–05. The period between our last report and the present has witnessed immense changes in the structure, function and work environment of ICPO. As a family we have completed 27 years together. Most significant achievement of this period is that the institute has completely shifted from MAMC to its new sprawling campus and has started functioning fully. The first memorable activity organized after entering the new campus was holding of International HPV Conference and annual cancer association meeting which was a grand success and was covered by both national and international media. ICPO has initiated several new research activities and emerged as a unique national center for research in women cancer. Several sophisticated equipment such as Automatic DNA sequencer, Peptide synthesizer, Real-time PCR, Microarray System, Phosphorimager, Laser Dissection Microscope have been acquired and many others are in the process of purchasing.

ICPO has made most significant contribution in the field of cervical cancer and HPV and has evolved as a National Reference Centre for HPV and cervical cancer. ICPO is also a WHO – collaborating centre for research and training in cytology and HPV vaccine and provide specialized diagnostic referral service at national level. The concept of clinical down-staging, visual inspection of cervix with selective cytology screening, devising of a low-cost diagnostic tool, Magnavizualizer for mass screening of women in the field setting and development of cost-effective novel molecular diagnostic approaches for screening HPV and other cancer-causing and cancer suppressor genes have been introduced by the ICPO for early detection of cervical cancer. Transcriptional control of viral gene expression, analysis of breast cancer susceptibility genes and development of DNA-based vaccine against HPV are some of the major research activities being pursued by the institute. This has led to the discovery of a natural anti-oxidative agent curcumin as an anti-HPV molecule and several novel breast cancer gene BRCA1 mutations including some founder mutations have been identified. Based on ICPO’s contribution and experience in the field, it has been designated as the national coordinating centre for Indian HPV vaccine initiative.

As many as 12 extramural research projects are being pursued at the Institute which are being funded by DBT, DST, CSIR, ICMR, NACO etc. Several new major research projects have been initiated recently such as North-East project on the role of tobacco and pesticides in esophageal, oral, breast and lung cancer. A multi-centric DBT project on clinical trial of Curcumin as an anti-HPV agent has been initiated by ICPO as the coordinating centre. Following signing of MOU between ICMR and Merck, a protocol is now being developed at ICPO for initiation of clinical trial of HPV vaccine at different regions of the country. All senior scientists are trying to generate funds through extramural resources. Recently, one project from NACO on HIV-AIDS/STD and women health and another on ovarian cancer have been approved.
In Academic front, an intense academic activity has been initiated in the new campus with setting up of the Academic cell which is promoting human resource development through in-service training, summer training, M. Sc. Project dissertation, workshops, Ph.D. and M.D./M.S./D.M programs and referral services in the field. Till date about 12 Ph.D’s and more than 50 M.D./M.S./D.M. students have been awarded their degree. More than 100 in-service training has been provided, about 40 M.Sc. students have done 4–6 months project dissertation as a part of their curriculum. So far 10 summer fellows of Indian Science Academy and several other fellows have received their training. Some of our students and staff have received National awards. All preparations are being made to get recognition for Ph.D./M.D registration under Indraprastha University, New Delhi.

A major initiative has been taken to restructure some of the divisions to introduce new areas of Preventive Oncology, such as Vaccinology, Molecular Immunology, Bioinformatics & Drug Designing, Behavioral Oncology and Cellular and Molecular Diagnostics.

The first phase of furnishing of the Institute is complete. ICPO Guest house has been made functional and the students and trainees are being accommodated at present. New construction activities for a state of art Animal house with BSL3 facility, Research and Training Hostel, Cafeteria and an Auditorium are in progress. It is also proposed to install ICMR Press & Publication Division in the ICPO Noida campus. The Institute building and its campus is being maintained nicely by UPRN.

A new system of in-house evaluation of scientific and technical staff every quarterly has been introduced. Strengthening of scientific staff is being taken up very aggressively. A few scientific and technical staff has already been appointed and others are in progress. Administrative issues which were pending for a long time, majority of them have been cleared and a few are in the process as these issues require Council’s clarification/approval.

Unfortunately, few of our staff members are not with us today. We lost two of our in-service staff, Mr. Iwar Dutt Sharma, Photographer who died of esophageal cancer, and the other staff was Mr. N.C. Bhatt, cytotechnician who died of liver cirrhosis. Their untimely death has left a void among us. All our sympathy and support are with the bereaved families. Despite all these setbacks, ICPO witnessed tremendous activities both in developmental and scientific arenas.

Last but not the least, I appreciate the unanimous support and cooperation from all the scientists and administrative staff of my Institute to make all development activities and scientific endeavors feasible in shortest possible time.

(BHUDEV C. DAS)
Director