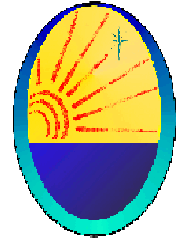


Opening remarks by

Dr A. Sen



Chairman of IUPAP Commission on Plasma Physics

Dr. Chatelier, Ladies and Gentlemen,

It is a great pleasure and an honor to be addressing you this morning in the opening session of the International Congress on Plasma Physics 2004. I would like to thank Dr. Chatelier and the organizers for giving me this opportunity and privilege. At the outset I would like to add my own warm welcome to all of you to this important scientific event. As Dr. Chatelier has pointed out in his opening remarks, the ICPP conference series was born in Europe. Its roots go back to the 'waves and instabilities' conference that was merged with the Kiev meeting and renamed as the ICPP series. So every time this conference is held in Europe one views it as a sort of homecoming and is strongly reminded of its grand origins. And there can be no grander place for holding this event than the present location – the beautiful city of Nice - set in the picturesque Cote d'Azur region. I would like to congratulate Dr. Chatelier and his colleagues for making all this possible. It feels good to be here. However I also feel at this point that not enough of us are here. So I cannot help expressing some concern for the progressive diminishing of attendance at this conference. In many ways ICPP is a flagship conference for our community representing as it does a broad platform for all areas of plasma physics. Given the central location of this venue I had expected a far larger attendance than what has been mentioned earlier by Dr. Chatelier. I feel we need to take serious note of this and take appropriate remedial actions for the future of this conference. I would request the International Advisory Committee to debate this issue at their meeting later this week– I do not wish to dwell on it this morning.

I have been asked to say a few words on the International Union for Pure and Applied Physics – (IUPAP for short) – which is one of the sponsoring bodies of this conference. Talking about IUPAP is a bit like talking about the United Nations – all of us know about its existence but most of us have a very vague notion of what it actually does. The UN does get some public attention from time to time – particularly at times of crises or war – the IUPAP as an organization rarely receives any publicity and always remains in the background. Nevertheless its goals and ideals are just as lofty as the UN and its role quite analogous to that of the world body if replace the word 'nations' by 'physics communities'. In broad terms the mission of the IUPAP is 'to assist in the worldwide development of physics, to foster international cooperation in physics and to help in the application of physics toward solving problems of concern to humanity.' It carries out this mission in a variety of ways e.g. by sponsoring international conferences such as this one; fostering communication and publication; encouraging research and education; fostering the free circulation of scientists; promoting international agreements on symbols, units and nomenclature; cooperating with other organizations on disciplinary and interdisciplinary problems. The Union adheres to the International Council for

Science (ICSU) and is thus part of a vast network of international scientific bodies. Most of IUPAP's functional activities are carried out by a large number of Commissions, which are devoted to various areas of physics/applied physics. Commission 16 that was established in 1969 represents our community. C16 has 3 office bearers and 10 members from various countries. In addition each member country of IUPAP has National Liaison Committees that maintain a close link with the central organization of IUPAP. So as you can see this is an enormous network within the physics community with a lot of potential for promoting the cause of physics within individual countries as well as internationally and more importantly applying the benefits of science to the aid of humanity. One can at this point ask the question – what has IUPAP done in this direction and what can we as a community hope to achieve in the future. In answer I would like to touch upon a few recent major activities of IUPAP and their outcome.

1. IUPAP is deeply committed to the cause of fostering free circulation of scientists and in ensuring that there are no major obstacles to this in any member country. As you are all aware, post 9/11 the issue of US visas has become a matter of great concern and has led to enormous difficulties for non-US scientists intending to visit the U.S. for scientific activities. IUPAP has taken a very proactive role in easing this situation by bringing up this issue at various international fora and putting its vast network resources to work. The President of IUPAP with support from the full Council also wrote directly to the Scientific Advisor of the U.S. President – highlighting this problem and seeking his help in resolving this issue. One has no direct evidence of the consequence of such efforts but statistics taken over the past one year suggest that there has been some positive impact and brought about a considerable decrease in the number of visa refusals or delays. The problem has not totally disappeared and IUPAP continues to be actively involved in providing whatever help it can. It has urged all commission members and the physics community at large to bring to its attention any cases related to this problem that comes their way. I would like to request all of you to let me or any of our C16 members know of any cases that you are aware of.
2. A second cause that is dear to the heart of IUPAP is the role of women in science and how to improve and increase their participation and contributions in science. IUPAP has constituted an important working group that has been working very actively for the past few years on various fronts. IUPAP has also put in place several recommendations to help this cause e.g. in the conferences that IUPAP sponsors it mandates that a conscious effort should be made for providing adequate representation of women scientists in the program selection committee and in the selection of invited talks. I am happy to note that the present conference has upheld the excellent tradition of ICPP in this regard for which I would like to congratulate Dr. Chatelier and his team.
3. A third major theme of IUPAP relates to developing nations and goes under the name of “sustainable development”. In the words of Burton Richter, past president of IUPAP, “sustainable” implies systems that can be widely deployed without degrading the environment and “development” implies facilitating the

advancement of developing nations towards a better standard of living. IUPAP strongly believes in an integrated approach to development that incorporates both these aspects and strives to bring this about by bringing about genuine and appropriate collaborations between scientists in developing and developed countries.

4. Finally I would like to briefly mention a recent initiative by IUPAP towards promoting awareness of physics in the world community – namely the declaration of the year 2005 as the World Year of Physics. The year marks the 100th anniversary of a series of great scientific achievements of Albert Einstein. As a result of this IUPAP initiative hundreds of scientific organizations throughout the world have planned major scientific events ranging from popular lectures to educational workshops to public media events. IUPAP itself is organizing a major conference in Durban, S. Africa in the last week of October, 2005 which will have sessions devoted to important themes like physics education, energy etc. I would encourage all of you to join in the efforts of IUPAP and in the process also further the cause of our own field of physics.

Well, that is all I have to say in way of a brief background on IUPAP goals and activities. I would like to end my talk by making a couple of suggestions about how we as a community can benefit from IUPAP and also how we can at the same time help IUPAP achieve its goals. I believe that our field of physics has some unique strengths and applications that make it eminently suitable for contributing to IUPAP's program of "sustainable development". Fusion energy is the ultimate long-term energy option for sustainable development and I think we should help IUPAP bring about a greater awareness of this fact. I would like you to know that IUPAP has always been very supportive of fusion and its potential as a future energy source. From time to time it has sponsored studies on the energy problem and fusion has always received a favorable mention. In a recent working group constituted by IUPAP to prepare a detailed report on the energy problem, Prof. P.K. Kaw of our community was chosen to compile the report on fusion energy as well as present the energy needs of the developing world. You will also be happy to know that IUPAP takes keen interest in large-scale fusion projects such as ITER and we should think about using their positive views in a synergistic way for helping the cause of ITER. Fusion energy is of course some years away. However even in the short term – novel plasma technologies such as waste treatment methods, cold plasma medical sterilization, surface engineering etc. – that are clean technologies are ideally suited for sustainable development. Not many in the scientific community or even in the physics community are aware of this and we need to make a conscious effort to improve this situation. One of the criticisms leveled at IUPAP and this applies to physicists in general is that we tend to play a very passive role in societal matters and in the application of our results for the benefit of mankind. Perhaps we as a community can work to alter this perception and cut a new path! My colleagues and I at C16 would certainly welcome any suggestions you might have in this regard and would be happy to discuss with you during the course of this conference. Like all of you I am also looking forward to the start of the scientific sessions of the conference - so I will stop now. Thank you very much for your kind attention.