Respected Dr. APJ Abdul Kalam, Professor Surendra Prasad, Dr. T. Ramasami, Dr. Samir Brahmachari, Shri Anuj Sinha, esteemed past Presidents of the Academy, distinguished Fellows of the Academy, colleagues at IIT and elsewhere and friends,

I have great pleasure in adding my own words of welcome to you all to those of Professor Surendra Prasad.

We could have asked for nothing better than to have Dr. Kalam on the occasion of the National Science Day during the Platinum Jubilee Year of the Academy. I originally came from Kerala, a state you know well. Our great poet Vallothol Narayana Menon wrote a touching poem on Mahatma Gandhi decades ago. One line in that poem went thus

"Thyagamennathe nettam, thazmathanabhyunnathi"

"Thazmathanabhyunnathi" translates roughly as humility is your greatness. That description, Sir, just as well could have been about you. You have scaled dizzy heights. Normally, most of us would have felt nervous in reaching out to those who have occupied such heights. But you always put us at ease, always remained one of us while at the same time inspiring us. Therefore, Sir, I welcome you most cordially not only to this function, but also to our midst.

I am grateful to Professor Surendra Prasad and his colleagues at IIT for partnering with INSA for today's function. The Academy can thrive only in the middle of scientific and technological excellence and we are delighted to be here for a second time this year.

I trust that today's joint efforts involving the Ministry of Science & Technology and the Indian National Science Academy, orchestrated by Dr. T. Ramasami, Professor T.P. Singh and the concerned officers of DST and INSA, would augur well for the future. The Academy by its very nature is not an implementer of major policies and programmes. It is a lode star that guides and inspires, and is a catalyst. The Academy can be most effective when it works independent of, but in close association with, the government. I think the time is propitious to take this engagement to the next higher level. I cannot think of a better constellation of secretaries to Science Departments than what we have today. Dr. Ramasami has been key to organizing this function. Two other Secretaries, Professor Samir Brahmachari and Professor M.K. Bhan, are part of the programme today. Then there are Dr. Shailesh Nayak of the Ministry of Earth Sciences and Dr. V.M. Katoch, DG, ICMR and Secretary for Health Research. All are distinguished scientists with great vision and commitment.

There are plenty of issues on which we need to work together. In recent years, science in India has expanded by leaps and bounds. The way and the pace at which science is done have undergone a sea change. The structure of Indian scientific establishment, as it exists today, has become unequal to the requirements of modern scientific research. As I mentioned when I welcomed the Prime Minister at the inauguration of our Platinum Jubilee events, we need a vibrant, resilient and sensitive system which is less bureaucratic, less hierarchical, more autonomous and more participatory, in order to unleash the creative potential of Indian science. With our collective will and indeed with much good will, understanding and respect for all

concerned, I am confident that it is possible to successfully address this issue.

Then there is the issue of policy studies. We have just established a Science Policy Cell at INSA under the leadership of Dr. V.S. Ramamurthy who, among other things, had earlier served as the Secretary of DST for a long period with great distinction. An important model in this regard is the US National Academy of Sciences. The U.S. government seeks the advice of the Academy on science related issues and the advice of the Academy is taken seriously. The Royal Society of London also is involved with Government in policy formulation. The involvement of INSA in science policy has been perfunctory. It is important to strengthen the role of INSA as a think tank in the service of the nation. Here again we hope to be able to work closely with the Government. The three Science Academies of India together have already begun to address the content of post-school science education in India. We are now in the process of addressing issues such as open access and copyright. There are other policy issues also which we hope to be able to address in the near future. We would like to seek suggestions and help from the Government in this major effort.

Then there is the vast area of science promotion in which we can all work together. The Academy by its very nature cannot undertake large projects. That is the province of governmental agencies. What the Academy is good at is in establishing fruitful relationships, catalyzing programmes and enthusing scientists. For example, we have an INSA visiting scientist programme which enables scientists from less endowed institutions, particularly teachers from universities and colleges, to visit well established laboratories for short periods of time. There are occasions when such short visits have

changed for the better the trajectory of the scientist's career. Then there is the science education programme aimed at bright students and college teachers, jointly run by the three science academies. This programme has had a high catalytic effect. Now we look forward to participating actively in the INSPIRE programme piloted by Dr. Ramasami.

International interactions form an important component of the activities of INSA. Again, INSA does not get involved in large international projects or massive operations. Our emphasis is on low cost, high value efforts. INSA is the national adhering body to ICSU which is the international apex body of academies and scientific unions. INSA is closely involved with many other international scientific organizations as well. Furthermore, INSA has exchange agreements with academies or learned societies of about 50 countries. Here the emphasis is on short visits. These exchange visits have been immensely useful in fostering fruitful global relationships. Here again INSA and the government need to work in tandem in a complementary manner.

Then there is the current effort to reach out to less developed countries, particularly those in Africa. INSA has a centre at Chennai, supported by DST and other agencies, specifically meant for this purpose. Among other things, it operates a DST project and an INSA-JRD Tata Fellowship Programme for researchers and technologists from developing countries. These fellowships are primarily for short visits to Indian laboratories and their multiplier effect is enormous. The African countries particularly now look up to India for help. This came into sharp focus when we were at Mozambique late last year for the ICSU General Assembly. China and to some extent Brazil are making determined efforts to be engaged with Africa. We need to do the same. There is

certainly the satisfaction of helping out our less endowed brethren. It is also a strategic investment. Through these short term fellowship programmes, we can generate enormous good will and strong relationships at very low cost. We are now looking forward to strengthening the fellowship programmes for less developed countries. In this context, I am happy that Professor Samir Brahmachari has agreed to support an INSA-CSIR Fellowship programme from the next financial year.

INSA does much else, particularly to further its core function of recognizing and promoting scientific excellence. However, as befitting the occasion, my emphasis today has been on activities in which INSA and the Science departments can work together. Despite problems and difficulties, we are in a period of great hopes and expectations. There is a spring in our steps. This is the result of the continuous progress the nation has made from the day when, to partially quote our first and visionary Prime Minister, at the stroke of the mid-night hour, when the world slept, India woke to new life and freedom and the soul of a nation long suppressed found utterance. Even a decade or two ago, certainly when I went abroad for post-doctoral training in the late sixties, Indians felt themselves to be under dogs in comparison to those in the advanced west. Many of us returned to India with fire in our belly, determined to build up science in our respective areas of endeavour to a level where we can talk to the rest of the world on near-equal terms. We are blessed with an enlightened political leadership and unstinted support from elders and peers, and the availability of brilliant young men and women in the form of research students. In the councils of the world, including those on science and technology, India is now taken very seriously. Yet, we still have a long way to go to the summit of international science. However, with our determined joint efforts through a

reformed system and with the involvement of hundreds of thousands of committed bright scientists, across the country, I am sure we would get there in the none too distant future.