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PHYSICS SYMPOSIUM 1979

The utility of physics is unequivocal, but the investments are not enough to create even a sound physics base for the country. The recently held Physics Symposium asked for increased financial commitments.

AHMED FAZL writes on

Physicists looking for greater role

Some 150 physicists of the country, both theoretical and experimental assembled at Dacca in mid-January for a Physics Symposium. The result was a brilliant array of fifty papers presented on subjects ranging from ultrasonic studies of hydrocarbon and the scattering of high energy nuclear particles to search for suitable materials for solar energy technology and the formation of tropical cyclones.

The symposium organised by the Bangladesh Physical Society and co-sponsored by the Dacca University, Bangladesh Academy of Sciences and the Atomic Energy Commission was imparted a distinct international dimension by the participation of twenty physicists from abroad.

The foreign scientists who presented some of their research works at the symposium include such luminaries from the world of physics as Prof. E. Kroener of the University of Stuttgart in the FRG, Prof. D. W. Palmer of the University of Sussex, Dr. E. Davies of the University of Cambridge, Dr. L. Hasselgren of the Swedish University of Uppsala, Prof. G. Shiffner of the Italian University of Catania, Prof. Shigehiro An of the University of Tokyo, Prof. M. A. K. Lodhi of King Abdul Aziz University of Saudi Arabia, Prof. A. N. Mitra of the University of Delhi, Dr. N. K. Ganguly of the Baroda project of Calcutta, Prof. V. Luxmi Narayan of the Indian University of Andhra and Dr. Farhad Faisel, a Bangladeshi, who is a professor at the University of Bielefeld in the FRG.

Nobel Laureate Dorothy Hodgkin, O. M. F. R. S. of the University of Oxford, was expected to take a leading role in the symposium but the British scientist

could not later participate because of a sudden illness of her husband. In a letter she regretted her inability to attend in spite of all the preparations she had taken to visit Dacca and wished the conference all success.

The local participants and the scientists from abroad dealt with contemporaneous problems in nuclear, solid state, reaction and high energy physics. Their deliberations constituted the mainstream of research in these fields and the exchange of ideas and experiences brought new understanding of these problems.

The horizons of physics have expanded more rapidly in this century than in the previous one thousand years. But the most significant aspect of modern development of physics is that it is becoming increasingly interdisciplinary permeating genetics, medicine, environment etc.

This, Prof. A. K. M. Siddiq, chairman of the organising committee of the Physics Symposium and the outgoing president of the Bangladesh Physical Society, says, makes it difficult for scientists to pursue the subject in an isolated manner within national boundaries.

Increased international collaboration should not only be in research but also in

physics education.

For the layman physics is a closed book and a subject containing such mathematical mumbo jumbo and weird Green hieroglyphs that it

should best be left to those

walking the corridors of the Curzon Hall. On the contrary this branch of knowledge is

very much relevant to our

needs and our peculiar de-

velopment problems. The

usefulness of physics re-

search cannot be stressed

more, but the problem is

that there is always a gap

between research and tech-

nology in our country. By the time we think of applying a certain research finding to practical uses through the acquisition of relevant technology, the advanced countries design and manufacture the equipment for export, says Prof. A. K. M. Siddiq, Dean of the Faculty of Science of Dacca University.

Prof. Siddiq is convinced that the technological gap between scientifically advanced countries and ours is widening because of what he terms the lack of a technological infrastructure.

A factor which hampers the growth of physics is the slogan of 'budget cut' in the advanced countries. Our administrators tend to adopt a similar attitude little realising that the total annual budget of physics is only a fraction of the budget cuts of other countries.

There is a continuous necessity of emphasising the utility of physics research and greater financial commitments to it as also of giving physicists their due status and scope for a moderately decent living. A brain drain in physics now exists possibly because of the fact that financial benefits of

fered by other countries out

strip those obtained here.

But Prof. Siddiq, who led the

Physical Society during its

last three formative years,

believes that the flight of

physicists will decline if re-

search programmes in the

universities and national la-

boratories are expanded and

there are greater economically meaningful and academically satisfying employ-

ment opportunities.

Investments so far in phys-

ics, it was noted at the sym-

posium, had not been enough

to build a sound base for

physics research at least not

strong enough to create an

impact on economic growth.

"We have yet to define clearly the national areas of physics applications and restructure the physics curricula so that it can play its due role in the planning and development process," says Prof. Siddiq.

In spite of the drawbacks

the universities and the

Atomic Energy Commission

laboratories have been work-

ing on problems of applied

nature. The Van de Graaf

accelerator at the AEC has

been recast towards applica-

tion oriented programmes.

The result of these transfor-

mations is that experimental

physicists can now work

with agriculturists in the de-

termimation of protein con-

tent of rice and pulses, the

estimation of fertiliser in-

take by plants to find out

the optimum level and the

analysis of indigenous raw

materials for possible indus-

trial use.

While the stress on need-

oriented research has to be

persistent, basic and funda-

mental studies must also be

promised. For, it is a matter

of pride and prestige for

the nation when it is able

to contribute to the wealth

of human knowledge. "Ban-

gladesh science, particularly

physics says Prof. Siddiq,"

"has been known to the out-

side world due to the con-

tributions made by some of

our physicists to the interna-

tional pool of knowledge."

Inaugurating the sympo-

sium, Prof. Innas Ali a phys-

icist and now member of

the Planning Commission

and Vice-Chairman of the

National Council for Scienc-

e and Technology said that

the talents in physics would

not be utilised to realise the

contribution of science and

technology in the productive

use of our natural resources.

He has pointed out that

scientists have special knowl-

edge which can assist deci-



Curzon Hall: a tradition of physics.

sion makers in resolving intricate domestic problems and also those related to interconnections in the modern world. A primary task of the scientists in the development process is, therefore, to find ways to apply scientific knowledge and technology for production of goods and services.

Prof. Fazlul Haqim Chowdhury, Dacca University, paid tribute to the community of physicists. He opined that research should be made more relevant to our society.

Dr. M. O. Ghani, President of the Bangladesh Academy of Sciences, said that the development of solar energy technology should become a priority interest for the country and its potential

uses are great. While emphasising application oriented research he has underscored that great advances in the former are possible when we have an extensive body of fundamental knowledge developed over years of painstaking basic research.

But these are only possible when a new programme is provided in physics, backed by necessary organisational and financial support is taken. The latter fund allocation is in the form of fund allocation in

the Physical Society established in 1973 can provide the organisational support the society enjoying a membership of 300 physicists including 40 working abroad. The latter fund allocation is

several decades ago a young physicist Satyen Bose, who later became the Head of the Department of Physics of Dacca University, spent his time probing the mysteries of matter and the fruits of his labour goes by his name as the Bose-Einstein statistics. Others have also made their mark since then.

The experience and knowledge gathered by local researchers enhanced programme in physics in different branches of the field.

The Physical Society, which organised the current symposium of its type, is an active body. It has plans to hold such a meeting of physicists every four years apart from regular seminars on relevant issues. The Society also intends to elect eminent physicists to elect eminent

countries as fellows. Three honorary fellows currently are professors Abdus Salam, F. R. S. E. Kroener and J. B. French.

The greatest achievement of the Physical Society however is its contribution to international collaboration in physics. Another aspect of this cooperation which was manifest in the recent symposium is the financing by different foundations and universities abroad which Dacca or the assembled scientists possible.

Says Prof. Siddiq, the bonds of friendship between here and those abroad have been cemented further during the symposium. The Physical Society has now to steer this understanding for even greater tangible benefits.