

# INTRODUCTION

by

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So, the Indian Association for General Relativity and Gravitation (IAGRG) has completed first 25 years of its very fruitful existence. I distinctly remember the occasion in February 1969 when the idea to form this association was mooted in a conference of Indian relativists.

Research in General Relativity and Gravitation (GRG) has had a long tradition in India. It was initiated by two stalwarts, Professor N.R. Sen at Calcutta and Professor V.V. Narlikar at Banaras during early thirties. Both these professors were teachers of mathematics and so in the initial stages, GRG was studied more in the mathematics departments. However discovery of Quasars in 1963 drew the attention of physicists round the world to the importance of GR and it had its effect in India. Isolated groups of research workers in GRG felt the need of a forum for discussing the new ideas developing in high energy-physics. And an opportunity came their way when past and present research students of Professor V.V. Narlikar thought of felicitating their Professor on his 60th birthday. A conference of Indian relativists (the first of its kind) was organised at the Physical Research Laboratory (PRL), Ahmedabad in February 1969. Professor Fred Hoyle (Cambridge University) and Professor F.D. Ivanenko (University of Moscow) attended this conference. It was at this conference that a decision was taken to form IAGRG with Professor V.V. Narlikar as its first President and Professor J. Krishna Rao as Secretary.

Of course, IAGRG fulfilled the primary expectation of Indian Relativists by supplying a forum to discuss and also to generate new ideas in GRG and high energy physics and astrophysics. But it did something else also. It organised several activities which resulted in IAGRG being recognised as a learned, academic science society of the country.

The IAGRG at its annual meeting in January 1978 resolved to celebrate Albert Einstein's birth centenary in early 1979 in a befitting manner, by holding an international symposium. IAGRG invited research institutes like Physical Research Laboratory, Tata Institute of Fundamental Research and Raman Research Institute to co-sponsor this symposium. This proposal was enthusiastically supported by these institutes and later Space Application Centre, the Gujarat University and the Indian Institute of Science also joined in. PRL came forward to host the symposium and it was held at PRL, Ahmedabad from 29 January to 3 February, 1979, with over two hundred participants of whom fifteen were from abroad. The ambition

of IAGRG to make the symposium worthy of the occasion was fulfilled in every possible way. One of the participants, in his concluding remarks said, "Einstein as a modest man would have least wanted all the attention paid to him in this centennial year. But surely he would be happy to see physicists paying attention to his thoughts and ideas, and I think, he would be pleased that, besides all the commemorative gatherings, there were also scientific symposia such as the one we have here at Ahmedabad." Proceedings of that symposium have been published.<sup>1</sup>

An interesting off-shoot of this symposium was the realisation that by and large physics departments in Indian universities had yet not taken to teaching and research in GRG. So after the Ahmedabad symposium of 1979, a few young relativists of IAGRG decided to draw the attention of these physics departments to this growing subject. With the help of these relativists of IAGRG, the University Grants Commission formed a Committee on Gravitation and Cosmology. The committee organised schools in gravitation for teachers in the Physics departments and advanced level instructional conferences for research students on modern aspects of general relativity. The standard of lectures at these instructional conferences was scientifically high and pedagogically suitable for research orientation. Lectures given at such an instructional conference held at Bangalore in 1985 have been published by Kluwer Academic Publishers under the title *Gravitation, Gauge Theories and Early Universe*.<sup>2</sup>

The tradition of studies in GRG initiated by Professor N.R. Sen and Professor V.V. Narlikar in the early thirties, were continued in the sixties and seventies by Professors P.C. Vaidya and A.K. Raychaudhuri. IAGRG thought out a plan of inviting papers from International GRG community and publish them in a book in honour PCV and AKR. So in 1985, appeared the book *Random Walk in Relativity and Cosmology*.<sup>3</sup>

All these efforts of projecting IAGRG activities on international front led to the idea of organising a series of International Conferences on Gravitation and Cosmology. The first such conference ICGC-87 was held at Goa in December 1987. This was followed by ICGC-91 at PRL, Ahmedabad and ICGC-95 at IUCAA, Pune. These ICGC conferences have made a distinct mark in development of Gravitation and Cosmology, the world over and IAGRG can feel satisfied with its role in this matter. Proceedings of these ICGC conferences are also published in book form.<sup>4,5</sup>

The cumulative effect of these activities of IAGRG on international front was immediately seen in the rise in the standards of discussions and research reporting at its periodic conferences and scientific publishers came forward to publish the proceedings of such conferences. In this way proceedings of IAGRG conference held at North Bengal University in November 1989 have been published.<sup>6</sup> It is therefore no wonder that the proceedings of its 1994 meeting marking the Silver Jubilee of

IAGRG are now being published!

I began this Introduction by stating that "IAGRG has completed first 25 years of its very fruitful existence". And I thought that the best way to introduce the readers to the important papers presented at the Silver Jubilee session of IAGRG was to introduce them to these 25 years of fruitful existence. This is what I have done above.

So I end this Introduction with wishing best luck to readers of these papers by experts on various aspects of GRG. I would also request the readers to join me in expressing our best wishes to IAGRG in its efforts to encourage scientific studies in GRG in India.

### References

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