

## JORGE SOTOMAYOR ON HIS 60<sup>TH</sup> BIRTHDAY

by M.M.Peixoto.

It is a pleasure to say a few words in this occasion, commemorating the 60<sup>th</sup> birthday of Sotomayor.

He was my student and got his PhD at IMPA in 1964. At the same time two other IMPA students of mine, Ivan Kupka and Aristides Barreto, also got their doctorates. These were the first doctorates awarded by IMPA. The theses of Sotomayor and Kupka got quick international recognition and were initial steps in the direction of establishing IMPA as a mathematical research institution, strong in Dynamical Systems. Both Sotomayor and Kupka came to IMPA from Peru, Sotomayor through the shortest geodesic and Kupka through an arc with origin in Strasbourg (France). In the wake of Sotomayor a number of Peruvians got their doctorates at IMPA. Among them, Carlos Gutierrez and Cesar Camacho became distinguished mathematicians and professors at IMPA. Currently Camacho is the Director of IMPA.

Sotomayor is certainly one of the pioneers of the modern theory of bifurcation, put in the context of the theory of Dynamical Systems.

This point of view was introduced in his thesis when he considered a 2-dimensional manifold  $M$  and on the space of flows on  $M$ ,  $\mathcal{X}(M)$ , he considered an arc  $\gamma$  and studied the intersection  $\gamma \cap \Sigma$  when  $\Sigma \subset \mathcal{X}(M)$  is the set of structurally stable flows on  $M$ .

In 1982 Sotomayor, together with C. Gutierrez put the concept of structural stability in the study of the foliation determined by the lines of principal curvature of an ordinary surface in  $\mathbf{R}^3$ .

This point of view enriched later by the collaboration of R. Garcia en others amounted to a new vision of the classical work of Monge, Dupin, Darboux, Caratheodory.

Let Soto continue to produce for many years to come his beautiful, relevant and down to earth mathematics.