

This David has a Goliath named after him

EXCERPTS of interview with Dr David Malin, the photographer scientist who has a massive galaxy named after him:

Q. Is there any particular field of astronomy work is focussed on?

A. Work on galaxies, particularly studying faint features of bright galaxies. This is something that can tell us about their origin, especially galaxies which are very light and have very few stars.

Q. How did you come across Malin-1?

A. Galaxies are gregarious. They are found in clusters. While studying the nearby cluster in Virgo constellation and counting the galaxies, I came across a strange structure. We first thought it was a brown dwarf. Telescope observations from Arecibo showed the structure to be

more distant than Virgo. It also contained vast amounts of hydrogen which galaxies do, but usually such galaxies form stars. This one had very few stars. So we thought it was a proto-galaxy formed long ago but which had not formed stars. But more information will come in after the radio telescope being conducted on the lines of Hydrogen.

Q. Today there are so many theories on the cosmos like its shape, size, expansion, structure, so on. Does your work deal with any of these directly or indirectly?

A. I don't work on cosmology directly but indirectly, yes. For example, the work on nearby galaxies tells us about dark matter. Matter that occupies 90

per cent of the universe, but yet cannot be seen, doesn't emit, reflect or stop light and is only felt by the gravitational power. Rather humbling to think that we are beginning to know only 10 per cent of the Universe. Working on nearby galaxies, these structures have been found to penetrate the dark halo of our galaxy.

While experiments are also designed to observe some theoretical prediction, many observations are meant to get more data on what is already known. Theory is of course indispensable to astronomy.

Q. Do you believe in the Big Bang?

A. Yes, all experimental evidence points to it. That all galaxies are moving apart indicates that they were all once together. Also the composition of the Universe - H, He and a trace of all other elements - is something the theorists can easily ac-

count for by setting a initial condition of a finite beginning. And then there are other links like how the age of all older stars are almost the same. There is no star older than a certain age. And all the radioactive elements seen today date the age of the Universe back to about 40,000 billion years ago.

Q. What is your opinion of SETI?

A. A noble cause but personally I am not much in favour. Tomorrow if someone were to report a signal from alien intelligent life, I wouldn't be surprised but I would be a bit puzzled. And that is because of my pessimistic view of what we are doing to this planet.

Consider that life has evolved the

way we have. It is hardly a 100 years ago that we could detect ourselves at a distance as Marconi showed. If intelligent life out there hasn't destroyed itself, it should take at least another 500 years for us to be detected from the nearest star. And then you have to be looking at the right star at the right time. If the aliens realise the value of the real estate lent to them and do not destroy that, yes there is a chance of detecting such life. Personally, I do not think the effort justifies the expense.

Q. You are all for popularising astronomy. Why?

A. Science can be made understandable, exciting and rewarding. Given the strange ideas of astrology and religion based on irrational beliefs, I think science can be used effectively to diminish all that. Also, the universe is a beautiful place. The idea that you and I are made of the carbon and other elements cooked inside stars, is such a lovely romantic idea to share with people. Finally, astronomy interests me and so I like to popularise it. (Malin has also written many books to popularise astronomy. His book 'A view of the Universe' won the Eureka science book prize in 1994.)

Q. Do you agree with criticisms against the International Space Station?

A. I agree to some extent. Personally if I had the money I would best like to place an observatory on the back side of the moon. With no light or radio pollution it would be a wonderful place for observation of space. I think the Hanle observatory undertaken by IIA at Ladakh should be one of the best sites for observational astronomy from Earth.



Dr Malin in his cage

DH 9-3-95 JK