

# Welcome Address

Gordon Bromage

*Jeremiah Horrocks Institute, University of Central Lancashire, UK*

Good morning, ladies and gentlemen. Welcome to this international conference entitled "Hunting for the Dark – the Hidden Side of Galaxy Formation", in this splendid location on the beautiful island of Malta.

I have great pleasure in welcoming you here, on behalf of the Vice-Chancellor of the University of Central Lancashire and all the astronomy staff of the Jeremiah Horrocks Institute at UCLan, and on behalf of the conference's organising committees. Welcome to this Hunt: for the Dusty; for the Elusive; for the Faint; for the Invisible; for the Obscured; for the Undetected Dark. It is certainly a challenging yet exciting task.

If you read Lewis Carroll's surreal rhymes in his "Hunting of the Snark", you may, like me, recognise quite a few parallels with our own Hunt, and take some amusement from this, as the conference organisers realised some time ago. You might be a pessimist and even entertain a notion – "a faint but wildly possible notion" – that at the end of this Hunt we may be unfortunate enough to catch a Boojumino for our Dark Matter Particle, and then "softly and suddenly vanish away". Let us sincerely hope that we are infinitely more successful than that.

To guide us, let us first look back in time along our hunting trail. We can trace it back seventy or eighty years to two crucial revelations in the history of astrophysics. First, we remember Truemper's famous demonstration in 1930 of the importance of interstellar dust, from observations of open star clusters in the Milky Way. Secondly, there were Babcock's and Oort's studies of the mass-to-light ratios in the outer regions of disks of nearby galaxies such as M31. In a retrospectively famous section of Oort's talk at the dedication of the McDonald Observatory in Texas in 1939, he said (and I extract from his words here, for reasons of brevity): "The distribution of mass ... appears to bear almost no relation to that of the light. ... In the outer parts of the nebula, the ratio of mass density to light density is found to be very high, and this conclusion holds for whatever dynamical model we consider..."

So the trail of Dark and Hidden Matter could be said to start in earnest at least 70 years ago. It has followed a winding path to the present day, with many twists and turns. Well, after 70 years, do we like those on the Snark Hunt, "shudder to think that the chase might fail"? No – absolutely not, of course, because we are eternal optimists: we are astronomers and astrophysicists, after all, and moreover great progress has been made in recent years towards our goal. I am reminded here of a recent article, a leading article in the UK's Guardian newspaper last July, written (obviously, but please note) by a non-astronomer, and entitled "In Praise of... Astronomers". I would like to quote