

# James Binney

## SCIAMA LECTURE

### Galaxies and the intergalactic medium

TRIESTE | JUNE 4, 2014 | SISSA - AULA MAGNA (MAIN LECTURE HALL) "P. Budinich"

#### WHEN/ WHERE

June 4, 2014  
5.00 PM  
SISSA - Aula Magna  
Via Bonomea, 265  
34136 - Trieste  
(Italy)

#### ABSTRACT:

Cosmology tells us that most "ordinary" matter such as we are made of is not in stars or in the interstellar media of galaxies. So it must lie between galaxies. In rich clusters of galaxies it is so dense and so hot that its thermal X-ray emission has long been detected. But cluster galaxies have long had very low star-formation rates, while field galaxies like ours have continued to form stars even though the surrounding intergalactic medium

is too rarefied to be detected. Chemical signatures indicate that our Galaxy has continued to accrete relatively pristine gas but there is much evidence that star formation leads to efficient ejection of gas from galaxies. A picture will be assembled of how galaxies like ours exchange matter with the intergalactic medium. This exchange influences the radial distribution of star formation and implies a specific role of massive black holes in galaxy evolution.



JAMES BINNEY

**James Binney** is a British astrophysicist. He is a Professor of Physics at the University of Oxford, where he is head of the Sub-Department of Theoretical Physics as well as a Professorial Fellow at Merton College. Binney is known principally for his work in theoretical galactic and extragalactic astrophysics, but he has made a number of contributions to areas outside of astrophysics as well.

#### SCIAMA LECTURES

**Dennis Sciama** (1926-1999) played a pivotal role in the development of modern cosmology and relativistic astrophysics. The memorial lectures are an occasional series with each lecture being given by a leading world expert, focusing on topics which were of particular interest to Dennis. Each lecture is normally given twice, once in Trieste and once in Oxford.