



Space fog a mystery

Astronomers have been left puzzled as to how a pervasive fog was cleared from the universe 13 billion years ago, lighting it up in all its glory.

Swinburne astronomer Dr Emma Ryan-Weber decided to test the theory that the fog cleared when the first stars were formed. Along with her

collaborators, Ryan-Weber measured the amount of carbon in the early universe.

"We came to the conclusion that the amount of carbon, and therefore number of massive stars, was insufficient to clear the fog," Ryan-Weber said.

"This means there must have been light coming from something else such as

an unknown population of quasars or carbon hidden in unobserved states."

According to Ryan-Weber, whatever the mystery source, it must have emitted a substantial amount of light in order to illuminate the universe.

"A lot of light is needed to lift the fog."

Unlocking immune system

A team of Monash researchers has discovered the importance of a protein, which could improve the way the drug interferon is used to strengthen the human immune system.

Published online in the prestigious journal *Immunity*, the findings show that the protein promyelocytic leukemia zinc finger is a key player in the body's immune response to disease, increasing our understanding of the function of the immune system.

Team leader, Professor



Bryan Williams, at the Monash Institute of Medical Research, said the findings demonstrate a role for PLZF, not previously recognised, that shows the protein is key to the body's immunologically important interferon response.

"We have shown that interferon stimulates an association between PLZF and cofactors to switch on a decisive subset of interferon-stimulated genes, including those involved in protection against viral infections," Williams said.



Bit on the side helps bird chicks

A new study has revealed that mother birds can provide an early advantage to the chicks that they have sired with their non-social partner (known as extra-pair offspring).

It has long been known that female birds commonly mate with males other

than their social partner, producing broods of mixed paternity in which the interloper's 'extra pair' offspring often outperform their half brothers and sisters.

A research team from the Universities of Melbourne and Groningen in the Netherlands have found that the superior performance of

these extra-pair young arises largely because they are placed earlier in the laying order.

"Our findings indicate that mothers often give extra-pair offspring a better start in life, which can have life-long benefits" Dr Michael Magrath from the Department of Zoology at Melbourne said.

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