

## Qing-Bin Lu Revives Debunked Claims About Cosmic Rays and CFCs

A [new paper by Qing-Bin Lu](#) in the *International Journal of Modern Physics B* is gaining coverage for its claim that chlorofluorocarbons (CFCs), not CO<sub>2</sub>, are causing global warming. This sensationalist headline is often [repeated](#) with little mention that Lu's claims are not new, and have not held up to scientific scrutiny in the past. In fact, Lu has been promoting his theories about CFCs for years, and mainstream scientists have found no merit in them. Critics have said Lu makes a fundamental scientific error by confusing correlation with causation, and does not effectively challenge the physical evidence of the warming effects of CO<sub>2</sub>, a body of knowledge built up over 150 years.

### The details:

- This theory has been considered and dismissed before. A [2010 report](#) by the National Academies of Science was commissioned by Congress to examine all the evidence surrounding global warming including the theory that cosmic rays might influence Earth's climate. It concluded that "a plausible physical mechanism... has not been demonstrated" and "cosmic rays are not regarded as an important climate forcing."
- In 2011, a [peer-reviewed paper](#) found that Lu's conclusions "are based solely on correlation... do not have a physical basis... and the findings of the IPCC... remain unchallenged."
- In response to Lu's most recent publication, several different scientists interviewed by the [Vancouver Sun](#) each said that Lu's conclusions "[go] against 150 years of very fundamental physics."
- Critics point out that Lu's paper fails to make the leap from correlation to causation, one of the most basic and most common scientific failings. This error is simply illustrated in the classic fable of the rooster who believes the sun rises because he crows. Two things may happen at the same time, but this does not mean one causes the other. A "physical mechanism" by which the two events are connected must be known, in order to fully understand causation.
- In contrast, there is strong [experimental](#) evidence of the physical mechanism by which CO<sub>2</sub> warms the planet, evidence that (as scientists have mentioned already in response to Lu) dates back [150 years](#).

### The claim:

Lu argues that CFCs are responsible for causing global warming. He uses a complicated chain of logic starting with the premise that it is cosmic rays, not UV rays as most scientists think, that break down CFCs, and ending with the finding that after his calculations, the estimated warming impact of CFCs matches up closely with actual measured surface temperatures. He concludes that it must be CFCs, not CO<sub>2</sub>, that are causing surface temperatures to rise.