The ancient mountains that fed early life

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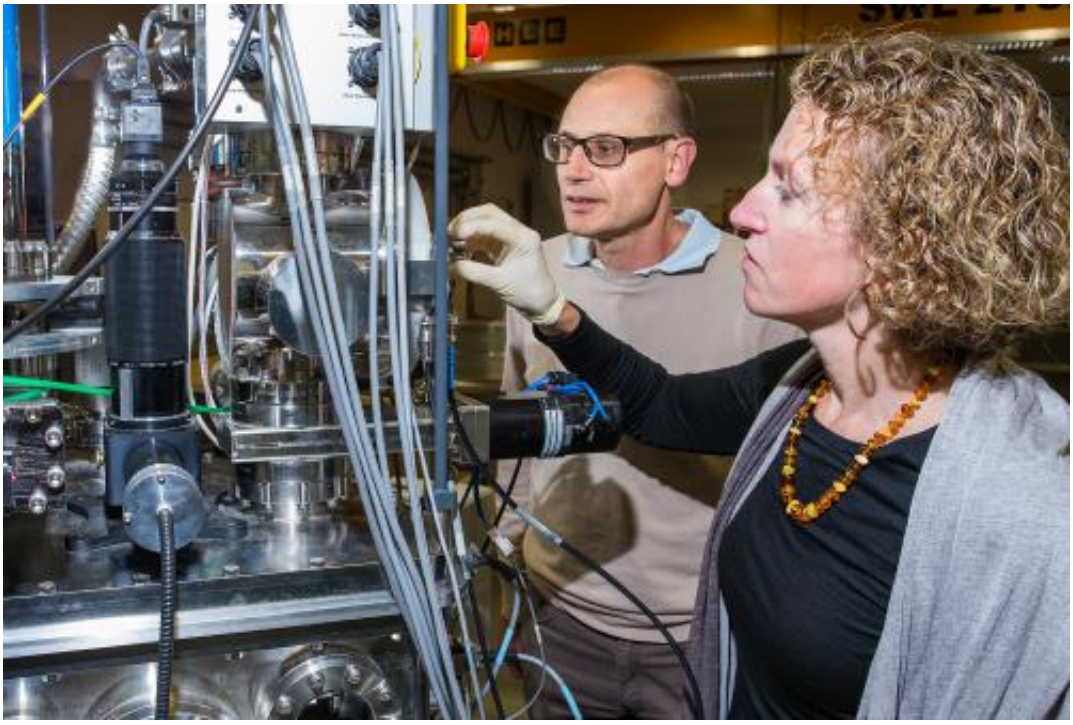

Professor Joerg Hermann (L) and Professor Daniela Rubatto in the Research School of Earth Sciences

Scientists have found evidence for a huge mountain range that sustained an explosion of life on Earth 600 million years ago.

The mountain range was similar in scale to the Himalayas and spanned at least 2,500 kilometres of modern west Africa and northeast Brazil, which at that time were part of the supercontinent Gondwana.

"Just like the Himalayas, this range was eroded intensely because it was so huge. As the sediments washed into the oceans they provided the perfect nutrients for life to flourish," said Professor Daniela Rubatto of the Research School of Earth Sciences at The Australian National University (ANU).

"Scientists have speculated that such a large mountain range must have been feeding the oceans because of the way life thrived and ocean chemistry changed at this time, and finally we have found it."

The discovery is earliest evidence of Himalayan-scale mountains on Earth.

"Although the mountains have long since washed away, rocks from their roots told the story of the ancient mountain range's grandeur," said co-researcher Professor Joerg Hermann.

"The range was formed by two continents colliding. During this collision, rocks from the crust were pushed around 100 kilometres deep into the mantle, where the high temperatures and pressures formed new minerals."

As the mountains eroded, the roots came back up to the surface, to be collected in Togo, Mali and northeast Brazil, by Brazilian co-researcher Carlos Ganade de Araujo, from the University of Sao Paulo and Geological Survey of Brazil.

Dr Ganade de Araujo recognised the samples were unique and brought the rocks to ANU where, using world-leading equipment, the research team accurately identified that the rocks were of similar age, and had been formed at similar, great depths.

The research team involved specialists from a range of different areas of

Earth Science sharing their knowledge, said Professor Rubatto.

Roots of the ancient mountain range, long since eroded, were found in Northeast Brazil. Credit: Carlos Ganade de Araujo

Provided by Australian National University

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