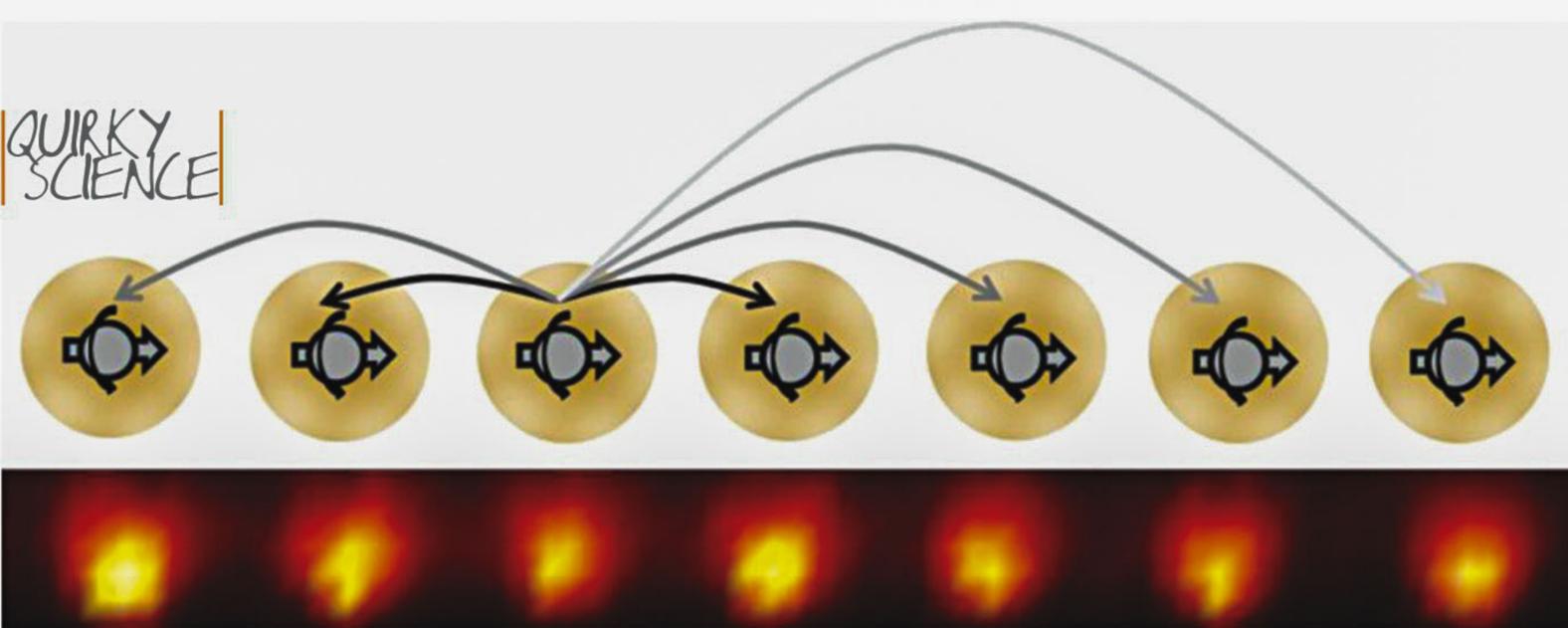


QUIRKY SCIENCE



# THE DISCOVERY OF TIME CRYSTALS

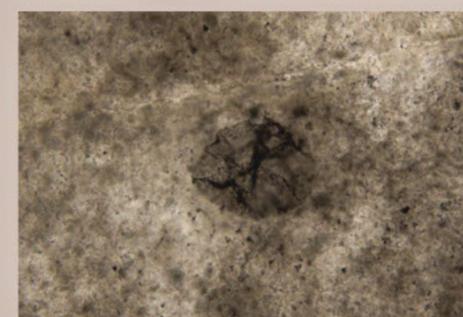
Recently physicists have discovered a whole new form of matter, It is four dimensional matter called time crystal. Normal crystals, like diamonds, are an atomic lattice that repeats in space. That means, a three dimensional diamond crystal is a mass of repeated adhesion of similar carbon atoms. However, physicists recently suggested making materials that repeats in time. So, they

have established that there is a group of particles which can move in a circle without radiating its rotational energy and keeps on returning to its original phase. When Frank Wilczek first proposed the idea in 2012, it was heavily criticised by many renowned physicists and such matters were termed as theoretical structures. However, physicists have recently discovered the existence of such

matters in crystal form. Last year, researchers established the phases surrounding a time crystal. They also figured out the method of measurement that would confirm that this new material is actually a stable phase of matter. This stimulated two teams to build a time crystal made of Ytterbium chain which is the first example non-equilibrium matter on earth.

## LIFE WITHOUT OXYGEN

There is a long established idea that oxygen is the prerequisite element for the creation of life on earth. However, scientists have demonstrated there were some primordial life forms which could survive and flourish without any oxygen. They found some specimens of 2.52 billion-year-old sulfur-oxidising bacteria. They were exceptionally large, spherical-shaped, smooth-walled microscopic structures much larger than most modern bacteria. Besides, scientists have also discovered almost similar kinds of single-celled organisms that live in deepwater sulfur-rich ocean settings today, where even now there are almost no traces of oxygen and no sunlight can enter.



SOURCE: [WWW.SCIENCEDAILY.COM](http://WWW.SCIENCEDAILY.COM)

TIME OUT

## BOOK LAUNCHING CEREMONY

# WHEN FACTS MEET CURIOSITY

RASMIA RAHMAN AMREEN



PHOTO: BRAC UNIVERSITY

On 24th of February, 2017, the English and Humanities Department of BRAC University arranged the launching ceremony of Dr. Tamina Mahmud Chowdhury's book titled *Indigenous Identity in South Asia: Making Claims in the Colonial Chittagong Hill Tracts* at its GDLN Centre. Professor Firdous Azim, chairperson of the ENH department, acted as the master of ceremony and along with the author, she introduced four other discussants including journalist and researcher Afsan

Chowdhury, professor of anthropology Prashanto Tripura, professor of international relations Amena Mohsin and professor of history Shapon Adnan, who later shared their review upon Dr Tamina's work.

This book sheds light over the condition of the indigenous people of the Chittagong Hill Tracts in the colonial era, which lasted from 1860 to 1947. It is an extension of the administrative historian's PhD thesis that she completed from the University of Cambridge, England.

On asking Dr Tamina about what made her write this book, she replied, "Growing up as a Bengali, I have always been curious about our identity and especially about the identity of the large minority group in Chittagong Hill Tracts and why they call themselves indigenous. As a historian, my job is to assist or produce knowledge that furthers our understanding. This book will be a stepping stone towards knowing the history behind this indigenous group of people in the

colonial era. As an academic, I have tried to look at their identity critically."

Dr Tamina M. Chowdhury was born in Chittagong. Later, at the age of nine, she along with her family moved to Dhaka. After finishing high school, Dr Tamina attained BA in Political Science from liberal arts institution Sewanee College, and MA in Globalisation and Development from Warwick University. Afterwards, she completed her PhD from the Cambridge University.