INFORMATION | GADGETS | TECHNOLOGY

BYTES

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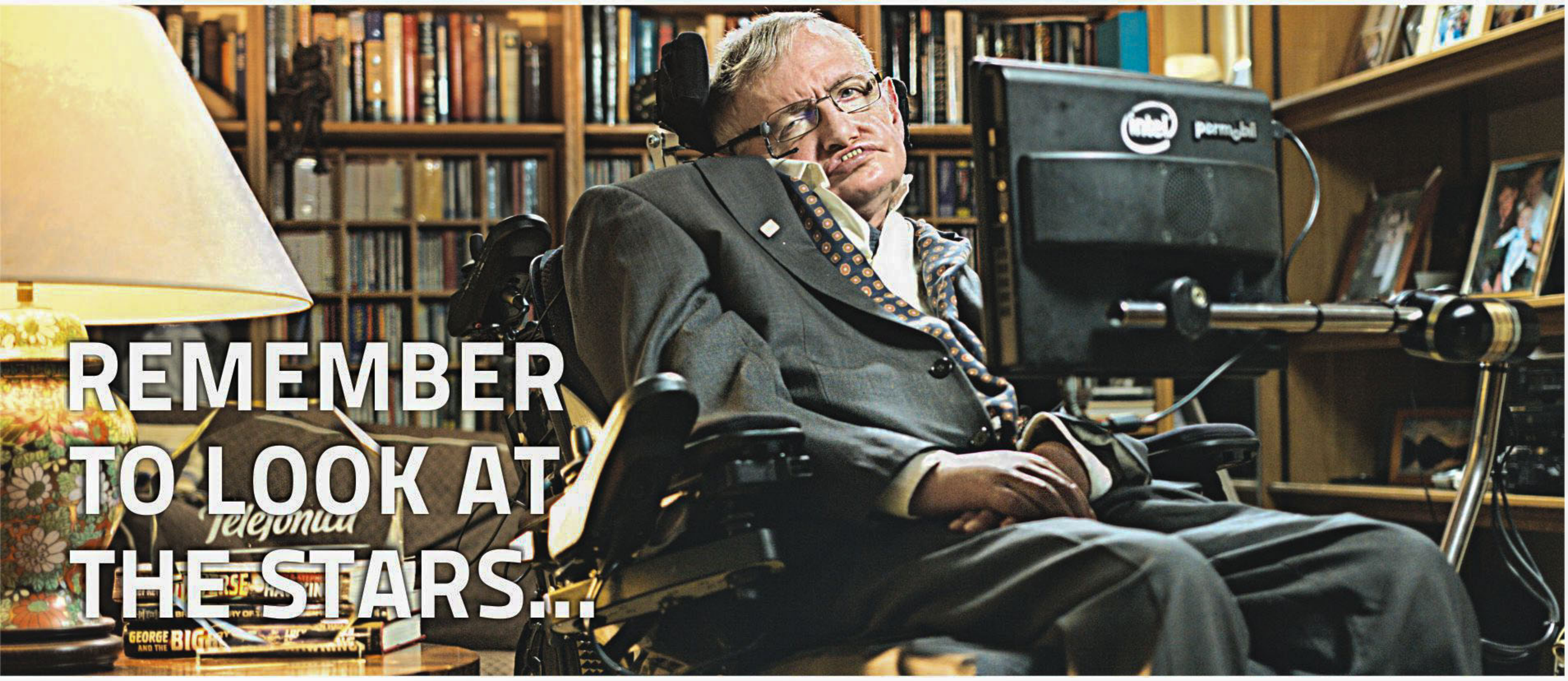
e-mail: bytes@thedailystar.net



REMEMBER TO LOOK AT THE STARS...

Stephen Hawking – a man who just didn't earn respect not for being a brilliant astrophysicist, but also for being one of the few people whose entire adult life was a constant fight against fearful odds. That story has been covered by the media extensively. Today, as a tribute towards this dreamer, we are sharing how his discovery of revolutionised our way of understanding one of the biggest cosmic concept: the black hole.

Space-time, a marriage made by the scientists of the last century, was one of the most elusive concepts back in the day. Just when Albert Einstein published his findings under the 'General Theory of Relativity', the very foundation of conventional classical physics shattered with a unified concept of spacetime. Sadly, Einstein himself couldn't ensure any exact solution to describe the true nature of the relationship between matter & energy vs spacetime. In 1916, a year later Einstein theorised General Theory of Relativity, Karl Schwarzschild found the first worth mentioning solution: that too for a point mass over all of space. Till today, the world recognises this as the solution for a black hole, one of the few exact solutions known even today. While in Schwarzschild's theory has some drawback: it assumed black holes to be static objects. But do you know who proved it wrong? It was Hawking; he was the first to prove that it wasn't a static cosmic holo.

Stephen Hawking mathematically theorised Black holes radiate over time, and even more importantly, aren't completely black.

Now the question arises: if a black hole isn't so black, and if it's radiating, how? Black hole, being an astronomic vacuum according to prior theories, radiate? Finding the answer to this elusive question was probably the life-altering contribution of Hawking in the world of Physics. Let's try to explain what Hawking did in layman's term: we previously knew how to calculate, in quantum field theory, and understand the properties of empty space when it is very far away from any masses, like a black hole. Thanks to Hawking, for the first time, we could do this in curved space: within a few radii of the event horizon. What he also observed was there was a marked difference in the behavior of the quantum vacuum when a mass was near.

When he ran through the math, he found the following properties:

• If you're far from the black hole, it looks like you get the thermal emission of blackbody radiation.

• Black hole's mass determines the temperature emission: the lower the mass, the higher the temperature.

• It follows Einstein's E = mc2 when radiating. The higher the rate of radiation, the faster the mass loss.

•Lastly and most importantly: as it loses mass, it shrinks and radiates faster.

These findings were revolutionary back in the day. It depicted a much clearer picture of humankind's overall understanding about black holes and how quantum fields behave in highly curved space. It opened up a new avenue altogether: the black hole information paradox. More importantly, it opens the door to additional subtleties that allowed scientists, for the first time, to take a proper peek under the hood of the universe and find out the effects of quantum gravity if there are any departures from the predictions of General Relativity. It has been nearly half a century but his findings remain one of the most revolutionary theory to explain black hole.

JUST IN

Huawei brings colour band and smart scale for smarter living

Huawei has brought Color Band A2 (hand band) and fitness tool Smart Scale to the Bangladesh market. The device can easily be paired with any Android or iOS devices using Huawei Wear app. The chipset of Color Band A2 is protected inside a metal frame and the entire front is covered with a scratch-resistant Gorilla Glass. One the other hand, China Institute of Sports Science (CISS) and Huawei Sports and Health Lab made Huawei Smart Scale which can show results analysing 9 critical factors – weight, body fat percentage, BMI, muscle mass, body water percentage, bone mass, protein, visceral fat and BMR.

Price: Colour band: Tk. 2,590/- & smart scale Tk. 3,000/-

Walton brings new models of gaming keyboard and mouse

Local brand Walton has released new models of gaming and standard keyboard and mouse in the tech market which are comparatively affordable in prices. The new products comprise 8 models of Gaming Keyboard, 2 models of Standard Keyboard and 6 models of Gaming Mouse. These Keyboard and Mouse support all kinds of devices with USB interface. The new 6 models of LED Gaming Mouse features 4D to 7D buttons

Price: keyboard- Tk. 1390 and onwards
Mouse- Tk. 465 and onwards

XIAOMI UNVEILS FULL SCREEN 4G SMARTPHONE

Xiaomi Bangladesh has brought Redmi 5, a full screen display 4G smartphone. Redmi 5 comes with 5.7 inch full screen display, Snapdragon 450 Octa-core 1.8GHz processor, Adreno 506 graphics processing unit, 2GB RAM and 16GB internal storage. It has another version which has 3GB RAM and 32GB internal storage. Both versions can be added up to 128 GB external storage. The specialty of Redmi 5 is its full screen display, Android 7.1.2 (Nougat) OS and a rear fingerprint sensor. The handset comes with 12MP rear camera, 5MP front-facing camera and 3300mAh battery.

Price: Tk. 13,990/-

TECH HAPPENING

UIU & Venturas to host Robotic competition

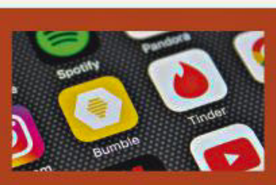
The first ever Robotics competition for the college students is going to start in Bangladesh. The competition is being organised by Venturas Ltd & UIU and will be supported by Bangladesh Investment Development Authority (BIDA), Embassy of Japan, Japan External Trade Organization (JETRO) and ICT Ministry. The competition will take place at the new campus of United International University (UIU) from March 21 to March 22. Students from elven colleges will participate in the exciting two day event - Notre Dame College, Viquarunnisa Noon College, Rajuk Uttara Model College, Adamjee Cantonment College, B A F Shaheen College, Trust College, Bir Shreshtha Noor Mohammad Public College, SOS Hermann Gmeiner College, St. Joseph College, Chittagong Grammar School, Govt. Science college in Dhaka. The champion team of the competition will be receiving One lakh Taka. BYTES, the tech supplement of The Daily Star is the youth engagement partner of the event.

TECH BITS

SpaceX is making big money moves

Google Lens arrives on iOS

Tinder owner Match is suing Bumble over patents



Facebook suspends Cambridge Analytica, the data analysis firm that worked on the Trump campaign

Education quiz app Kahoot raises another $17M at a $100M valuation