

ON YOUTH AND DEPRESSION

The stories of depression among Bangladesh's youths usually go ignored. However, in every part of our society, we experience the horrific outcome of this social crisis. As a researcher, I have seen how depression kills the creativity, talent and potentials of our youth. It is also true that their depression is created not by themselves but by the society they live in. According to many Bangladeshi young adults from different districts and from different socio-economic background, the reason behind their frustration is the inconsiderate family members who always want to impose their decisions on their young minds.

Munni (not her real name), a 3rd year student from Khulna University says, "I liked to dance when I was a child. I loved cycling and performing on-stage. However, all of a sudden, when I was a teenager, I was prohibited from doing all the things I wanted to do as my family and my society did not want me to."

"One day I will also become a mother. I will always tell my children to be free, to do whatever they want to do and to be whoever they want to be," adds Munni. In a male dominated society, it is not uncommon that young women are more vulnerable to the negative impacts of frustration as they are restricted from doing many activities that their male counterparts can do.

Nonetheless, young men in Bangladesh are also victims of frustration and they also blame society for their premature distaste towards life. Md Masud, a student of Dhaka University blames the divided education system and discriminatory employment system for the crisis. "I studied in a Madrassa and excelled in Islamic laws, English, Bengali and Arabic languages. However, I was weak in Mathematics and for this reason I failed to pass admission exams. After years of hard work finally I managed to get enrolled in Dhaka University."

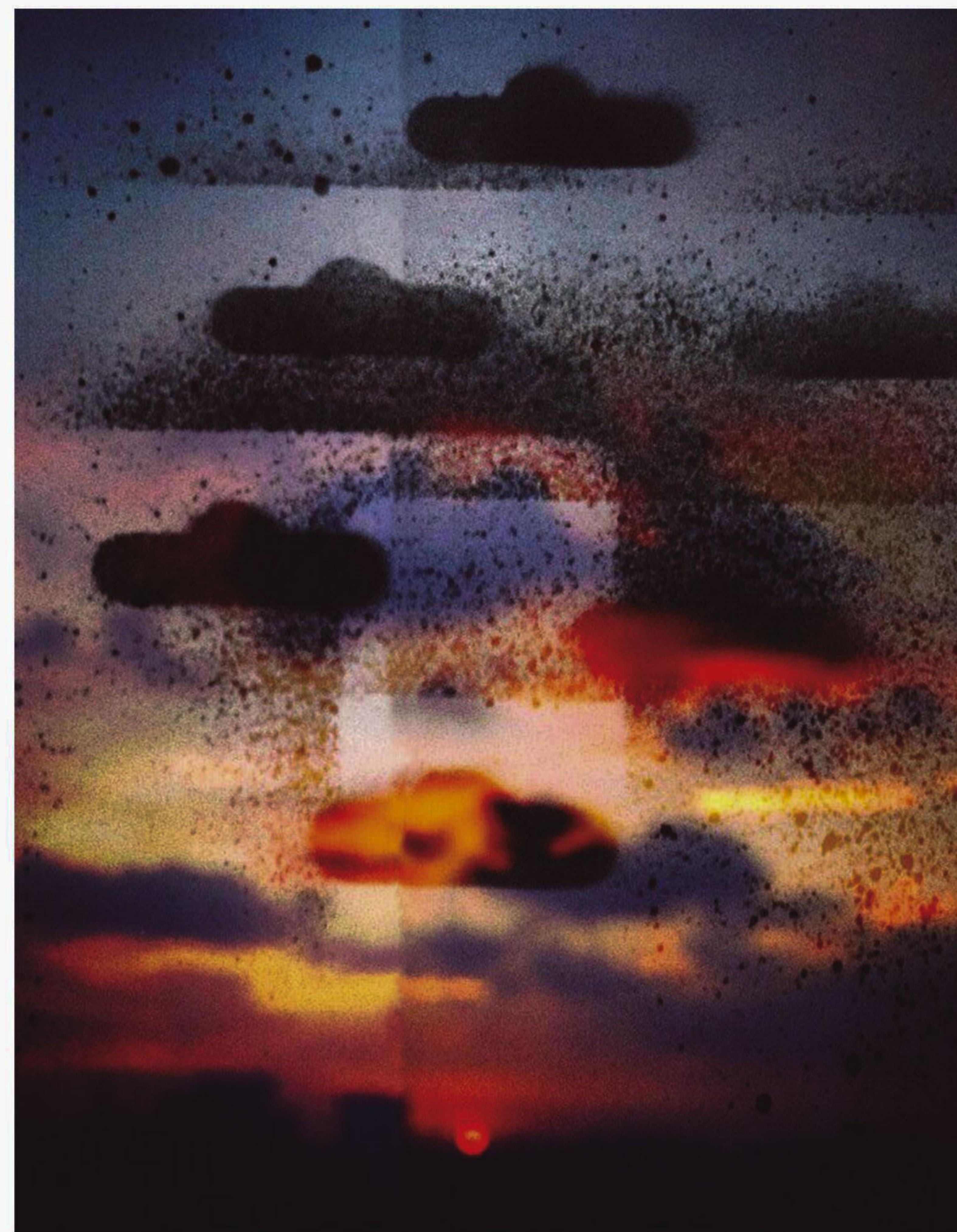
"However my research work which I had worked hard on for years, on Islamic laws and Arabic had proved to be useless in the job market. And with students from other streams, I am now forced to memorise general knowledge and practice arithmetic to get jobs," he adds.

Masud's arguments are echoed by millions of youth in Bangladesh who are unemployed or underemployed. Even if many of the employed youths can apply their hard earned knowledge to the betterment of the society, the society fails to give them that scope and space.

According to Shamima Sultana, Psychosocial Counselor at BRAC, "Young minds are sophisticated. When their thoughts and beliefs start to shape up during their early age, they particularly need the mental support from their loved ones."

We cannot remove all the limitations and negative aspects of Bangladesh in a day. However, it is the families who can play the lead role in nurturing the young minds in a way so that they learn to adapt with the existing limitations. If we can train our youths to adapt, they will find ways to thrive by utilising the limited opportunities to their best efforts.

The writer is an Atlas Corps fellow and founder of Physically Challenged Development Foundation.



MIZANUR RAHMAN KIRON

IMAGE: KAZI TAHSIN AGAZ APURBO

| SOCIETY |

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| QUIRKY SCIENCE |



WORLD'S SMALLEST RADIO RECEIVER

Researchers from the Harvard John A. Paulson School of Engineering and Applied Sciences have made the world's smallest radio receiver – built out of an assembly of atomic-scale defects in pink diamonds.

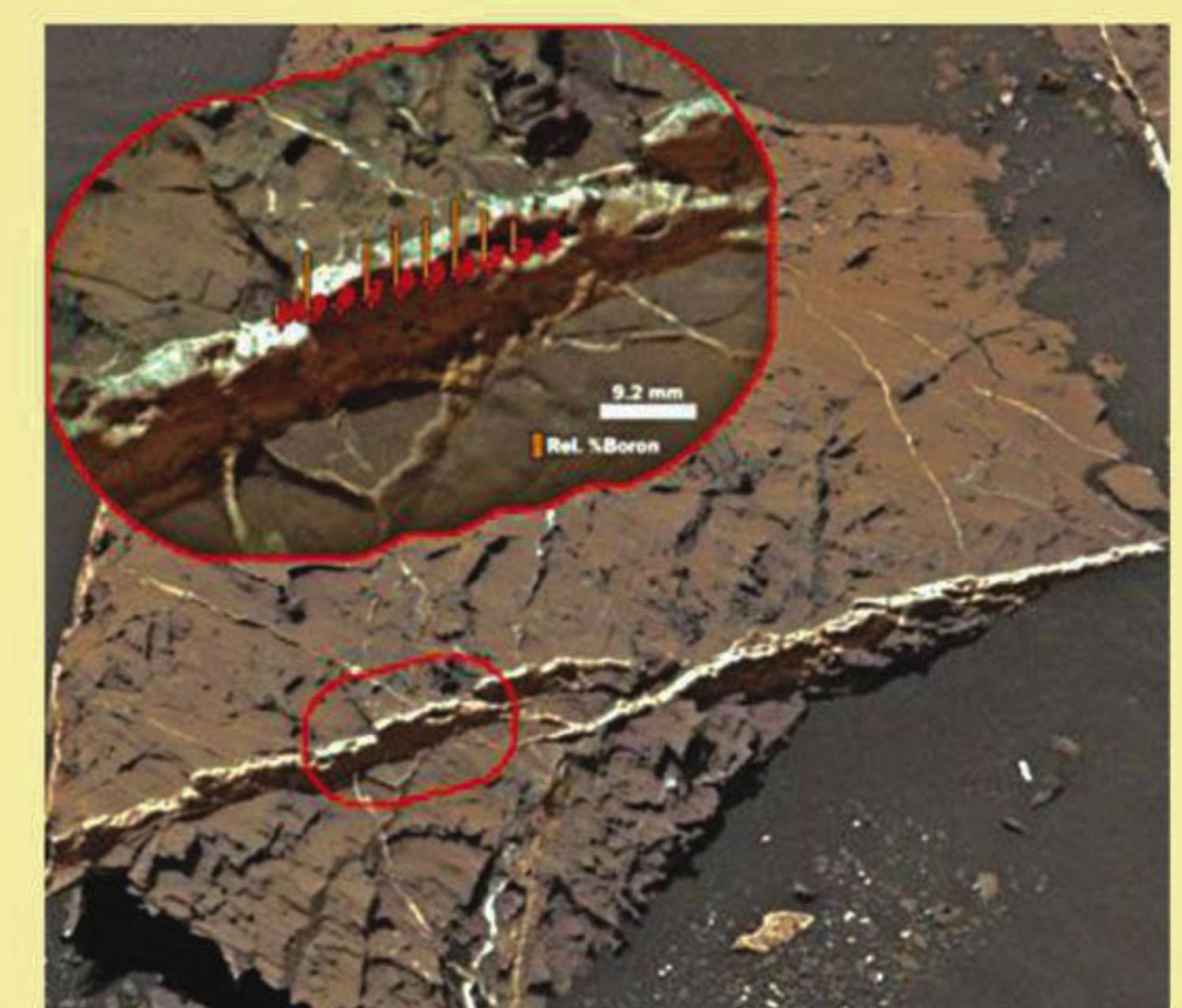
This tiny radio – whose building blocks are the size of two atoms – can withstand extremely harsh environments and is biocompatible, meaning it could work anywhere from a probe on Venus to a pacemaker in a human heart.

The research was led by Marko Loncar, the Tiansai Lin Professor of Electrical Engineering at SEAS, and his graduate student Linbo Shao and published in *Physical Review Applied*.

The radio uses tiny imperfections in diamonds called nitrogen-vacancy (NV) centers. To make NV centers, researchers replace one carbon atom in a diamond crystal with a nitrogen atom and remove a neighboring atom –

creating a system that is essentially a nitrogen atom with a hole next to it. NV centers can be used to emit single photons or detect very weak magnetic fields. They have photoluminescent properties, meaning they can convert information into light, making them powerful and promising systems for quantum computing, photonics and sensing.

Radios have five basic components – a power source, a receiver, a transducer to convert the high-frequency electromagnetic signal in the air to a low-frequency current, speaker or headphones to convert the current to sound and a tuner.



BORON ON THE SURFACE OF MARS

Boron has been identified for the first time on the surface of Mars, indicating the potential for long-term habitable groundwater in the ancient past. This finding and others from NASA's Curiosity rover science team will be discussed in a press conference today in San Francisco during the American Geophysical Union conference.

"No prior mission to Mars has found boron," said Patrick Gasda, a postdoctoral researcher at Los Alamos National Laboratory. "If the boron that we found in calcium sulfate mineral veins on Mars is similar to what we see on Earth, it would indicate that the groundwater of ancient Mars that

formed these veins would have been 0-60 degrees Celsius [32-140 degrees Fahrenheit] and neutral-to-alkaline pH." The temperature, pH, and dissolved mineral content of the groundwater could make it habitable.

The boron was identified by the rover's laser-shooting Chemistry and Camera (ChemCam) instrument, which was developed at Los Alamos National Laboratory in conjunction with the French space agency. Los Alamos' work on discovery-driven instruments like ChemCam stems from the Laboratory's experience building and operating more than 500 spacecraft instruments for national defense.

Source: Sciedaily.com

| STRANGE PROFESSIONS |

THE SPONGE DIVERS

MD SHAHNAWAZ KHAN CHANDAN

There is an ancient Greek myth that says humans learnt to dive under water to collect sponge. In fact, sponge diving is the oldest form of the original art of underwater diving which was practiced by many ancient civilisations such as Greeks, Egyptians and Indians. And, this strange profession of exploring seabed for sponge still exists in this twenty first century. Marine sponges are one of the oldest forms of life on earth. The porous bodies of these multi-cellular organisms made of silica and calcium carbonate are highly prized by humans from ancient times. Pure calcium carbonate skeleton of sea sponges are used as cleaning tools, paint applicator and to produce different kinds of valuable medicines and antibiotics. For such usefulness, divers scan the seabed for these precious stationary marine creatures ignoring fatal threats from sharks, sea serpents and octopuses. Despite the invention of artificial sponges and aquaculture of sea sponges, naturally born sea sponges are still of great demand. And, divers all over the world do not hesitate to dive into the seabed in search of them even without any safety equipment. In Indonesia, divers can explore the sea bed for as long as 5 minutes without any breathing device. Even in Bangladesh's coastal islands, fishermen dive into the sea to collect sea sponges without any diving gear. However, such extraction of sea sponges at this industrial scale has various adverse effects on the already endangered marine ecology.



PHOTO: INTERNET