# SCIENCE CENTRE NEWS LETTER

April 2017
Issue 24

**SCIENCE CENTRE**

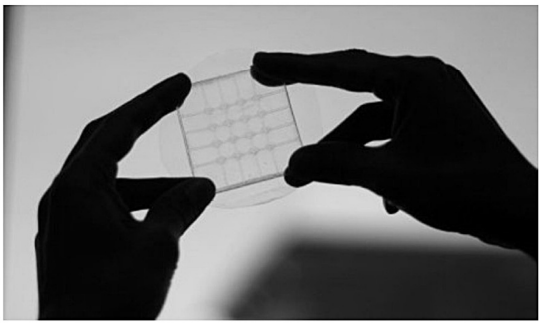
Volume 2, Issue 12



## WHAT'S NEW IN SCIENCE

### New flexible Sensor holds potential for foldable touch screens

Picture a tablet that you can fold into the size of a phone and put away in your pocket, or an artificial skin that can sense your body's movements and vital signs. A new, inexpensive sensor developed at the University of British Columbia could help make advanced devices like these a reality.



The sensor uses a highly conductive gel sandwiched between layers of silicone that can detect different types of touch, including swiping and tapping, even when it is stretched, folded or bent. This features makes it suited for foldable device of the future.

"There are sensors that can detect pressure such as the iPhone's 3D touch and some that can detect a hovering finger, like Samsung's Air view. There are also sensors that are foldable, transparent and stretchable. Our contribution is a device that combines all those functions in one compact package", said researcher Mirza Saquib Sarwar, a Ph.D student in electrical and computer engineering at UBC.

The prototype, described in a recent paper in Science Advances, measures 5 cm x 5 cm but could be easily scaled up as it uses inexpensive, widely available materials, including the gel and silicone.

The sensor could also be integrated in robotic "skins" to make human- robot interactions safer, added John Madden Sarwar's supervisor and professor in UBC's faculty of Applied Science.

Courtesy :
P.P Savani Vidhya Sankul, Abrama Road , Mota Varacha, Surat

## SCIENTIST OF THE MONTH

### Manmohandas B. Soparkar

Manmohandas B. Soparkar was born on April 10, 1884 at Pune in Maharastra. He got a degree of Bachelor of Hygiene and completed his M.D from Bombay University in 1913.

Manmohandas B. Soparkar contributed greatly to the cause of science. He devised a special medium for the cultivation of the Influenza bacillus in 1918. He also has to his credit the development of a method to cultivate the Tuberclei bacillus. He studied extensively about human schistosomes and trematode parasites. Through his researches he showed that the bacillus causing bovine tuberculosis in Indians was highly virulent. Dr. Soparkar also worked extensively on the deadly epidemic 'plague' in India. He died on May 31, in the year 1952.

Dr. Soparkar received the Dossabhoy Hormusiee cama Prize from Bombay University, the Minto Gold Medal and the king George - V Silver Jubliee Medal.

Courtesy :
P.P Savani Vidhya Sankul, Abrama Road , Mota Varacha, Surat

# SCIENCE FACTS APRIL 2017

| | |
|---|---|
| 1. April 1962 | Decimal weight measurement system was made compulsory in India. |
| 2. April | World Autism Awareness Day. (UN) |
| 2. April 1618 | Mathematician and Physicist, Francisco M. Grimaldi (discoverer of light diffraction) was born on this day. |
| 3. April 1984 | Indian Astronaut Mr.Rakesh Sharma traveled into Space. |
| 7. April | World Health Day (WHO) (UN) |
| 12. April | International Day of Human Space Flight (UN) |
| 12. April 1961 | First Russian Astronaut Yuri Gagarin traveled into Space. |
| 16. April 1853 | First Indian Steam Engine train was started from Mumbai to Thane. |
| 16. April 1867 | Wilbur Wright (co-inventor of the first manned aeroplane) was born on this day |
| 19. April 1912 | American Chemist, Glen T. Seaborg (discoverer of plutonium) was born on this day. |
| 19. April 1971 | Russia had launched world's first unmanned Space research station "Salyut-1" in Space. |
| 19. April 1975 | India entered in Space Era. "Aryabhatt" Satellite was launched from Soviet Union. |
| 22. April | International Earth Day. |
| 22. April 1799 | Jean Poiseuille (discoverer of blood pressure) was born on this day. |
| 23. April | World Book & Copyright Day (UNESCO) |
| 23. April 1858 | German Physicist, Max Planck (who wrote the Planck Constant) was born on this day. |
| 25. April | World Malaria Day (WHO) |
| 25. April 1874 | The great Scientist Mr. Marconi (inventor of Radio) was born on this day. |
| 27. April 1791 | Mr. Semual Morse (inventor of Postal Service & Telegram) was born on this day. |
| 28. April | World Day for Safety & Health at Work |
| 30. April 1895 | French Scientist Mr. Rontgen discovered X-rays. |

U.N. United Nations

WHO World Health Organization

UNESCO United Nations Educational Scientific & Cultural Organization

Quiz Answers: (1) a (2) b (3) d (4) a (5) c


**Timings**

Tuesday to Friday
9.30 am to 4.30 pm

Saturday - Sunday & Public Holidays
11.00 am to 6.30 pm

**Address**

Science Centre
City Light Road,
Surat - 395 007

**Contact**

0261 - 2255947
+91 97277 40807

Fax No.
91-261-2255946

E mail
sciencecentre@suratmunicipal.org

Web Site
www.suratmunicipal.gov.in


बहुजनहिताय बहुजनसुखाय

## KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

# Rising Bubble


Pull the leavers down with your hand. Watch that big air bubbles are formed which slowly rise through the liquid column observe that the bubbles grow in size as they move up.

As you press the lever, a large volume of air is released inside the liquid column. The high viscosity of the liquid prevents air from escaping quickly through it as would have happened if the liquid were water, the viscous drag on the air molecules allows the entire volume of air to remain within a single bubble there by making its size bigger. As the bubbles rise up, the liquid pressure on its surface gradually diminishes. As a result, the bubbles grow in size. The viscosities of the liquids in the three tubes here are different, and so are the behaviours of the bubbles through them.

## SCIENTIFIC QUESTION

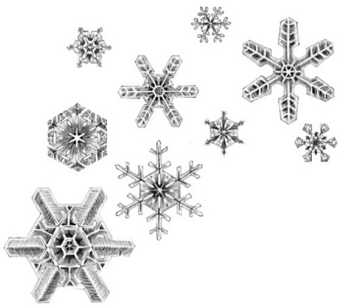
# What is Crystal?

Some of the world's most valuable items are a special form of solid matter called crystals. They include diamonds, rubies, sapphires, emeralds and many other jewels or "precious stones". The atoms or molecules inside these crystals fit together in a certain way because of their shape. They are like bricks in a wall, or clip-together toy building blocks. They can be joined to make larger and larger structures, but always in the same basic shape as the smaller units. A crystal has flat sides called facets, in the form of triangles, squares, rectangles, or similar geometric shapes. There are straight, sharp edges between these facets, at specific angels to each other. The natural substances called minerals in the Earth's rocks can often be identified from their crystal shapes. Natural or raw crystals are cut and polished into jewels or gemstones.

**Raw Crystals**: Natural crystals vary in size, from too small to see except with a microscope, to as big as a house. When they are dug up, they are usually dull and look crushed or distorted.

**Polished Crystals**: A ruby jewel or gem is a cut and polished version of the raw crystal. Gemstones are Valuable because of their beautiful colors, hardness, transparency and shiny, glassy surfaces.

**Snow Crystals:** In very cold conditions, high in clouds water freezes to form tiny ice Crystals. These fall as snow. Because of the way they grow, these crystals always have six sides or arms. Yet everyone is different.



**Sugar Crystals:** Sugar, like common salt, is usually in the form of crystals. Under the microscope, these show lines and patterns conditions, crystals "grow" in size, getting bigger yet keeping their distinctive sharp - edged crystal shape.

Courtesy :
P.P Savani Vidhya Sankul, Abrama Road ,
Mota Varacha, Surat

## SCIENCE QUIZ

**(1) What is called substance that can't be broken down into simpler substance using any chemical means?**

(a) an element (b) a compound (c) a mixture (d) a colloid

**(2) What is called measurable or numerical information?**

(a) qualitative data (b) quantitative data (c) a Variable (d) a hypothesis

**(3) What vector describes?**

(a) direction only (b) magnitude only c) size and shape (d) magnitude and direction

**(4) What is the word for a measure of the force of gravity on an object ?**

(a) friction (b) mass (c) centripetal force (d) velocity

**(5) What do you get when you mix an acid and a base ?**

(a) an amino acid (b) a soap (c) a salt (d) a sugar

## EXHIBITION

Surat Municipal Corporation Science centre, surat is going to organise summer camp in May, 2017. It wil be held between Dt. 1/5/2017 to Dt. 10/5/2017. There are two age groups of 7 to 12 years and 13 to 17 years. The form can be downloaded from Surat Municipal Corporation's website. The interested students should register their names up to Dt. 26/4/2017 during 10.00 am to 4.00 pm at Performing Art Centre/ Science Centre Surat, City Light Road, Surat.

## SCIENCE CENTRE

Science Centre forms the main part of the entire complex; it displays thematic galleries in the field of Science and Technology. The ground floor of Science Centre showcases 3D Theatre and Souvenir Shop. The first floor of Science Centre showcases Planetarium, Fun Science Gallery and Power of Play Gallery and second floor of Science Centre showcases Diamond Gallery, whereas Entering into Space, Textile Gallery, Cosmos Gallery and Polar Science Gallery are under development.

| 3d Show | Tuesday to Friday (Time) | Saturday, Sunday & Holidays (Time) |
|---|---|---|
| English | 09:15, 11:20, 12:00, 02:40, 04:00 | 11:20, 12:00, 02:40, 04:00 |
| Hindi | 10:00, 10:40, 12:40, 01:20, 02:00, 03:20 | 12:40, 01:20, 02:00, 03:20, 04:40, 05:20, 06:00 |

| | |
|---|---|
| **Science Centre + Planetarium + Museum + Diamond Gallery** | |
| Above 18 Years | Rs. 100 |
| 3 Years to 18 Years | Rs. 65 |
| **Science Centre + Museum + Diamond Gallery** | |
| Above 18 Years | Rs. 60 |
| 3 Years to 18 Years | Rs. 40 |
| **Science Centre + Planetarium + Museum + Diamond Gallery + 3D Show** | |
| Above 18 Years | Rs. 120 |
| 3 Years to 18 Years | Rs. 80 |
| **Planetarium** | |
| Above 18 Years | Rs. 50 |
| 3 Years to 18 Years | Rs. 40 |
| **3D Show** | |
| Above 18 Years | Rs. 60 |
| 3 Years to 18 Years | Rs. 40 |

**Planetarium**

| Tuesday to Friday | | Saturday, Sunday & Public Holidays | |
|---|---|---|---|
| 09:30 to 10:20 | English | 11:30 to 12:20 | Gujarati |
| 10:30 to 11:20 | Gujarati | 12:30 to 01:20 | English |
| 11:30 to 12:20 | Gujarati | 01:30 to 02:20 | Hindi |
| 12:30 to 01:20 | English | 02:30 to 03:20 | Hindi |
| 01:30 to 02:20 | Hindi | 03:30 to 04:20 | Gujarati |
| 02:30 to 03:20 | Hindi | 04:30 to 05:20 | English |
| 03:30 to 04:20 | Gujarati | 05:30 to 06:20 | Gujarati |