

# Day 1



## Interactive Science Festival "Nikola Tesla"



*Fly into the  
future!*

7<sup>th</sup> - 11<sup>th</sup> of February  
2022  
6<sup>th</sup> Edition

A contest of science  
and creativity

Place: Palace of Culture Iasi



It is that wonderful time of the year again, when we have the chance to embark on a journey in the world of sciences! This time, we will enjoy our travel from above, as we will FLY and FLY and enjoy the view every time we reach our destination. As the theme of our school year is FLYING, we will spread our wings and enjoy every day of this week!

Workshops, experiments and inspiring key note speakers will enrich our experience and broaden our perspectives! Enjoy every day of the 6th edition of the festival and don't forget to learn something new every day! Stay tuned!

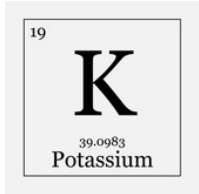
## This year's special guests:

As you already know, each year we have interesting meetings with experts from the fields of science. This year, we have the pleasure and the honour to meet our special key-note speakers:

- Mark Miodownik- UCL Professor of Materials & Society
- Sorina Lupu- Research Engineer at Caltech
- Bogdan Iliescu- Neurosurgery specialist
- Alexandru Luchian- Information Technology Specialist

Until you meet them, think of some interesting questions you can ask them in order for you and your colleagues to find out more about these fields!

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## Element of the day

Potassium is represented by the chemical symbol K, it is a soft element belonging to the family of alkali metals that can be cut easily. It rapidly reacts with water, halogens, acids and bases and it was discovered by Sir Humphry Davy in 1807. It is the 7th most abundant element in the Earth's crust, constituting 2.4% of it by mass. Potassium is necessary for life. Potassium ions, found in all cells, help in maintaining fluid and electrolyte balance. For humans, the daily average potassium intake is up to 7 grams.

## Fun facts

1. Polar bears have black skin.
2. Rats laugh when they are tickled.
3. You can fit 1.3 million Earths inside the Sun
4. Venus is the only planet to spin clockwise.
5. Killer whales are actually dolphins.

## Radio

Do you want to stay in touch with the latest news and find out more about what happens in our school this week? Listen to them- to the media team!  
Every morning, from Tuesday to Thursday, you will have the chance to listen to the radio!



Scan on  
Spotify!



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## Today's Article

### How does family stress affect brain development in children?

The answers may vary but, first we need to properly understand the phenomenon. Brain development is a continuous process throughout life that goes through sensitive periods during which stressors and nurturing experiences can have lasting effects. Many adult diseases such as cardiovascular disease and depression have their origins in adverse early-life experiences, such as neglect and abuse, as was shown in the Centers for Disease Control Adverse Childhood Experiences Study.

When we talk about these effects, we can divide them in two main categories:

Emotional effects

Physical effects

#### Emotional effects

Chronic stress, including sleep deprivation are specific to children that grew up in neglected and/or abusive households. In time they can produce changes in brain architecture, increase anxiety, alter mood, and decrease memory and cognitive flexibility. Fortunately, these changes are reversible in a healthy, resilient brain through therapy.

When these effects do not reverse after the stressor is removed, chronic anxiety and depression may occur that require treatment by behavioral and pharmaceutical means, which is most often the case for these children.

#### Physical effects

When we talk about physical effects, they are a little bit harder to reverse. Studies show that non consistent maternal care and maternal anxiety—for example, from food insecurity—produce anxiety in offspring and appear to promote a predisposition to diabetes, which itself has adverse effects on the brain. Besides diabetes, children from abusive households have a higher risk to develop conditions such as obesity, heart disease, Alzheimer's disease, diabetes, gastrointestinal problems, and asthma.

#### Final thoughts

Unfortunately, there is not much we can do to help children that come from abusive households and are forced to deal with chronic stress and anxiety. However, we need to acknowledge that this isn't uncommon in Romania. Many children suffer in silence because they believe that it is normal not to have food on their plate or to be beat by their parents. It is truly sad. We urgently need to stop the normalization of this issue.

Bursucanu Thea

