

Události roku 2021

Podařilo se opravit střechy a nainstalovat fotovoltaické panely. Získali jsme certifikát HR Award.

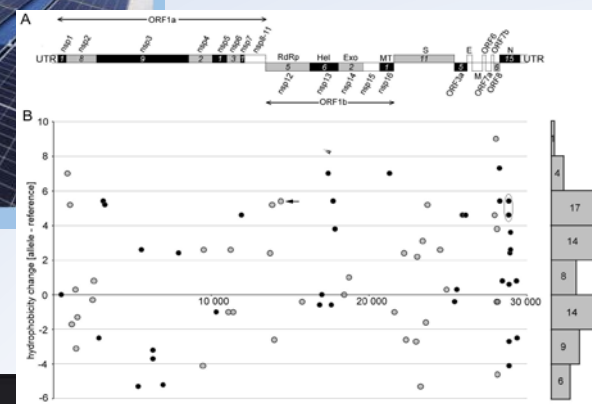


Fotovoltaické panely – Biofyzikální ústav AV ČR, v.v.i



Did you know that SARS-CoV-2 is very poor in G-quadruplex forming sequences but extremely rich in inverted repeats? (1)
 Moreover, these inverted repeats are hot-spots of SARS-CoV-2 mutations. (2,3)
 Detailed bioinformatic analyses of all accessible viral genomes revealed that viruses causing acute infections are significantly depleted for G-quadruplex prone sequences contrary to viruses causing persistent infections which are enriched for G-quadruplex prone sequences. (4)
 (by Václav Brázda et al.)

Václav Brázda a kol. publikovali významné objevy o struktuře viru SARS-CoV-2.



V areálu ústavu byla prezentována obří nanostruktura a Mendelův putovní hrášek.

Evolution of Plant Telomerase RNAs: Farther to the Past, Deeper to the Roots

published in *Nucleic Acids Research*, <https://doi.org/10.1093/nar/qkab545>

TR features in early diverged clades?

Fajkus et al. present a smart strategy of telomerase RNA (TR) identification based on its conserved type-3 RNA Pol III promoter and TR template elements. The authors characterise TRs in early diverging Viridiplantae taxa, as well as in ciliates and other Diaphoretickes lineages. TRs are validated experimentally and show conservation of core TR structural domains. These results shed light on the evolution of a key eukaryotic non-coding RNA across more than a billion years.

Biofyzikální ústav AV ČR

Naše kolegyně Judit Šponer byla vyzvána, aby komentovala novou studii, týkající se vzniku života v prestižním časopise Science.

Judit Šponer, a chemist at the Institute of Biophysics of the Czech Academy of Sciences is impressed with the reconstruction of LUCA's (the last universal common ancestor) metabolism, and Judit agrees that a hydrothermal vent was probably where it all came together. But she does not think the other components of life necessarily arose there. The necessary pieces for life as cell membranes, metabolic reactions, a genome could have evolved in different places over millions of years, and then somehow come together. Life emerged in a variety of conditions (Judit Šponer). In detail see Science: <https://www.science.org/.../our-earliest-half-alive...>

SCIENCE.ORG
 Our earliest, 'half-alive' ancestor needed little boost from heat
 Life on Earth assembled itself in warm, mildly alkaline conditions, study says

Nejvýznamnější článek roku 2021 byl vybrán článek autorů Matyášek a kol., Mutational Asymmetries in the SARS-CoV-2 Genome May Lead to Increased Hydrophobicity of Virus Proteins Genes, 2021.

Naše kolegyně Judit Šponer byla vyzvána prestižním časopisem Science, aby komentovala novou studii, týkající se vzniku život na Zemi.

FESTIVAL VĚDY S JMK $\sqrt{4084441}$

Účastnili jsme se řady PR aktivit.

Petr Fajkus a kol. publikoval v časopise NAR výsledky výzkumu o rostlinných telomerách.