

TABT Updates and URLs for January 2018

Item 1 – Professional Development Opportunity

TABT Recommends Our Affiliates

Texas Association of Biology Teachers (TABT) is an affiliate of both the Science Teachers Association of Texas (STAT) and the National Association of Biology Teachers (NABT). If you aren't a member of one or the other, you should give them your consideration. Both have great materials and are leaders in the field. You can find STAT at <http://www.statweb.org/> and NABT at <http://www.nabt.org/>.

Item 2 – Science Update

José M. Martín-Durán, *et al.*, “Convergent Evolution of Bilaterian Nerve Cords”

(*Nature*, 553:768, 4 January 2018, Pages 45-50)

In bilaterian animals it is likely that the various architectures of the ventral nerve cords evolved convergently, many times.

Joshua C. Saldivar, *et al.*, “A New Mitotic Activity Comes into Focus”

(*Science*, 359:6371, 5 January 2018, Page 30-31)

The ATR kinase has a role in mitosis to promote chromosome segregation.

Item 3 – Quote of the Week for 8 January 2018

“One general law, leading to the advancement of all organic beings, namely, multiply, vary, let the strongest live and the weakest die.” – *Charles Darwin, English naturalist, geologist and biologist*

Item 4 – URL of the Week for 8 January 2018

Skype a Scientist

This “virtual guest” program was established at the University of Connecticut with the goal to link school children to working scientists using web based tools such as Skype and Google Hangouts. The program has already joined carefully selected scientists in conversation with over 800 classrooms. For more information about the program or to sign-up for the chance to have a scientist speak with your students visit: <https://www.skypeascientist.com/>

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Item 1 – Professional Communication & Networking

TABT Website Set to Grow With Your Help

The Texas Association of Biology Teachers maintains an extensive website at <http://www.tabt.us>. Our webmaster, Corena “Nikki” Fitzgerald, maintains the site. She is looking for teachers to submit activities to the newly developed Members Only section. Right now the entire site is open. You should check it out!

Item 2 – Science Update

J. Victor Moreno-Mayar, *et al.*, “Terminal Pleistocene Alaskan genome reveals first founding population of Native Americans”

(*Nature*, 553:7687, 11 January 2018, Pages 203-207)

An Ancient Beringian population from Late Pleistocene Alaska descended from a single founding population that diversified around twenty thousand years ago.

Annie N. Cowell, *et al.*, “Mapping the Malaria Parasite Druggable Genome by Using In Vitro Evolution and Chemogenomics”

(*Science*, 359:6372, 12 January 2018, Page 191-199)

Genome sequencing elucidates potential drug resistance in the malaria parasite and identifies antimalarial targets.

Item 3 – Quote of the Week for 15 January 2018

“You look at science (or at least talk of it) as some sort of demoralizing invention of man, something apart from real life, and which must be cautiously guarded and kept separate from everyday existence. But science and everyday life cannot and should not be separated.” – Rosalind Franklin, English chemist and x-ray crystallographer

Item 4 – URL of the Week for 15 January 2018

Fossil-Facts-and-Finds.com

This site is created by a couple of teacher in California. They have some interesting fossil photos, as well as links to additional information.

<http://www.fossils-facts-and-finds.com/>

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Item 1 – State and National Awards

State and National Award Nominations Are Now Open

It's time to start thinking about the exceptional biology/life sciences teachers that you work with (or that you are) and nominating them for the OBTA or the TABT Alton L. Biggs Excellence in Biology Teaching Award. Please use this linked form to nominate a colleague whom you feel deserves to be recognized for their outstanding work in the classroom: <https://goo.gl/FNYU8W>

Self-nominations are also accepted and encouraged. Nominations will be open until February 1, 2018. For further information or questions you have about each of these awards, please contact Lee Ferguson, TABT OBTA/Awards Director at mrsleeferg@gmail.com.

Item 2 – Professional Development Opportunity

Genes in Space – Houston

TABT friend [miniPCR](#) and partners have created [Genes in Space](#), a free science competition where teachers and students can design DNA research proposals for space. St. Thomas High School in Houston will be hosting a workshop on February 1st for teachers to get hands-on experience with the program materials. There are only 4 spots left open for this FREE event. For more information, contact Daniel Bryant, Daniel.bryant@sths.org or click on the following link to register: <https://goo.gl/zchHmJ>

Item 3 – Science Update

Guillermo Abascal-Palacios, *et al.*, “Structural Basis of RNA Polymerase III Transcription Initiation”

(*Nature*, 553:7688, 18 January 2018, Pages 301-306)

Detailed structures of yeast RNA polymerase III and its initiation complex shed light on how the transcription of essential non-coding RNAs begins and allow comparisons with other RNA polymerases.

Manuel Delgado-Baquerizo, *et al.*, “A Global Atlas of the Dominant Bacteria Found in Soil”

(*Science*, 359:6373, 19 January 2018, Page 320-325)

Relatively few soil bacterial taxa dominate terrestrial ecosystems worldwide, with predictable distributions and ecology.

Item 4 – Quote of the Week for 22 January 2018

“I must admit that I personally measure success in terms of the contributions an individual makes to her or his fellow human beings.” – *Margaret Mead, American Cultural Anthropologist*

Item 5 – URL of the Week for 22 January 2018

The Biology Project

Created and maintained by the University of Arizona, The Biology Project, hosts a variety of online, interactive resources for learning biology.

<http://www.biology.arizona.edu/default.html>

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Item 3 – Science Update

Samuel F. Bakhoun, et al., “Chromosomal Instability Drives Metastasis Through a Cytosolic DNA Response”

(Nature, 553:7688, 17 January 2018, Pages 467-472)

In chromosomally unstable tumor cells, rupture of micronuclei exposes genomic DNA and activates the cGAS–STING cytosolic DNA-sensing pathway, thereby promoting metastasis.

Augustine Kong, et al., “The Nature of Nurture: Effects of Parental Genotypes”

(Science, 359:6374, 26 January 2018, Page 424-428)

Genetic variants in parents may affect the fitness of their offspring, even if the child does not carry the allele. This indirect effect is referred to as “genetic nurture.”

Item 4 – Quote of the Week for 29 January 2018

“The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction.” – Rachel Carson, *American Marine Biologist and Author*

Item 5 – URL of the Week for 29 January 2018

PhET Interactive Simulations

Founded in 2002 by Nobel Laureate Carl Wieman, the PhET Interactive Simulations project at the University of Colorado Boulder creates free interactive math and science simulations. PhET sims are based on extensive education research and engage students through an intuitive, game-like environment where students learn through exploration and discovery.

<https://phet.colorado.edu/>

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