In this section, I provide articles on recent developments and new technology used in microbiology and related fields. I also post articles that may help you bring new information or techniques into your laboratory or classroom via case studies or lab exercises. I hope you find this information useful, and I encourage you to send suggestions, questions or comments to me at herzogja@herkimer.edu. I look forward to hearing from you!

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Research Articles

Memish, Z. A., et al. 2013. Middle East respiratory syndrome coronavirus in bats, Saudi Arabia. Emerg. Infect. Dis. 19. doi:10.3201/eid1911.131172.

(The identification of Middle East respiratory virus betacoronavirus (MERS CoV) in bats points to their role in disease transmission.)

Etienne, L., and M. Emerman. 2013 The mongoose, the pheasant, the pox, and the retrovirus. PLoS Biol. 11:e1001641. doi:10.1371/journal.pbio.1001641.

(The accidental spread of an ancient virus may provide future insight into human pandemics.)

Biedermann, L., et al. 2013. Smoking cessation induces profound changes in the composition of the intestinal microbiota in humans. PLoS ONE 8:e59260. doi:10.1371/journal.pone.0059260.

(Identification of distinct microbiomes in the gut of smokers versus nonsmokers and the impact on weight gain.)

DiMarzio, M., N. Shariat, S. Kariyawasamv, R. Barrangou, and E. G. Dudley. 2013. Antibiotic resistance in Salmonella enterica Serovar Typhimurium associates with CRISPR sequence type. Antimicrob. Agents Chemother. 57:4282. doi: 10.1128/AAC.00913-13.

(CRISPRs are effective genomic markers for tracking the transmission of drug-resistant strains of Salmonella Typhimurium within the food supply.)

Wilharm, G., J. Piesker, M. Laue, and E. Skiebe. 2013. DNA uptake by the nosocomial pathogen Acinetobacter baumannii occurs during movement along wet surfaces. J. Bacteriol. 195:4146-4153.

(Insight into environmental conditions required for efficient horizontal gene transfer may lead to advances in controlling this often drug-resistant healthcare-associated pathogen.)

Pedagogy Articles

Kim, Y., S.-M. Lim, and I.-S. Lee. 2013. Observation of microorganisms in milk after the expiration date using dry rehydratable film. Am. Biol. Teach. 75:345-348.

(A simple hands-on learning activity for K–12 outreach demonstrating microbiology of milk.)

Gross, P., et al. 2013. Final evaluation of the next generation science standards. [Online.] http://www.edexcellence.net/publications/final-evaluation-of-NGSS.html. Accessed August 30, 2013.

(One leading institute’s commentary on the new standards set to take K–12 science education on a completely new course.)

NOTE: Please do not forget to review all of the information presented in May 2013 at the 20th American Society for Microbiology’s Conference for Undergraduate Educators (http://www.asmcue.org/index.php/past-meeting-resources/asmcue-2013-highlights-and-proceedings).