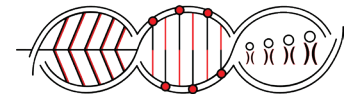


## News at a Glance

August 22, 2019

CEG

Center for Environmental Genetics



Funded by NIEHS award P30 ES006096

<http://med.uc.edu/eh/centers/ceg>

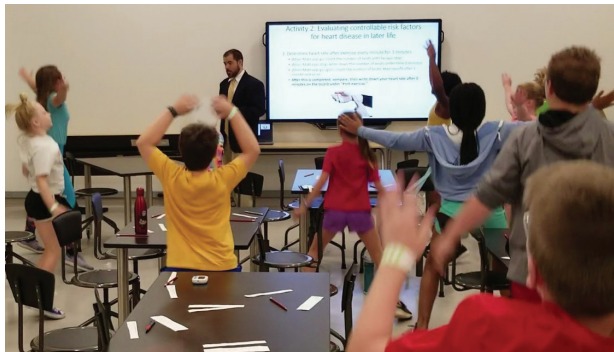
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The July 2019 issue of [Epigenomics](#) includes an article by CEG investigators **Scott Langevin, Ph.D., M.H.A., Liang Niu, Ph.D., et al.** on their efforts to map DNA methylation across 16 CpG-dense regions previously associated with oral and pharyngeal squamous cell carcinoma (OPSCC). The team found clear differential methylation between one or more OPSCC cell lines and control cells for the majority of CpG-dense regions. Targeted multiplex bisulfite amplicon sequencing allowed

the team to map methylation across the entire region of interest with a high degree of sensitivity and thereby observe novel differentially methylated regions that may have value as biomarkers of OPSCC. See **Langevin SM, Kuhnell D, Niu L, Biesiada J, Leung YK, Deka R, Chen A, Medvedovic M, Kelsey KT, Kasper S, Zhang X.** Comprehensive mapping of the methylation landscape of 16 CpG-dense regions in oral and pharyngeal squamous cell carcinoma. *Epigenomics*. 2019 Jul;11(9):987-1002. [PMID: 31215230](#)

Mentees of CEG members **Alvaro Puga, Ph.D.,** and **Aimin Chen, M.D., Ph.D.,** took part in the final 2 of 4 [CEC](#)-led sessions during the Cincinnati Museum Center's 2019 summer medical camp for youth:



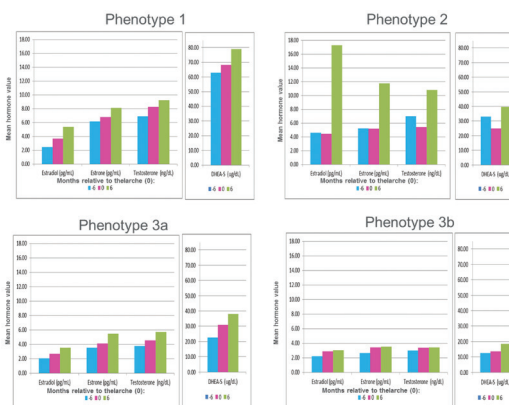
PhD candidate **Matt DeGannes (Puga lab)** presented Aug 7 on dioxin and how exposure to this environmental contaminant affects cardiovascular health. Campers learned where dioxins are produced and how people can be exposed. Campers were excited to learn how to take their pulse and measure the differences between resting heart rate and active heart rate after completing jumping jacks for 1 minute

On Aug 9 MD-PhD student **Zana Percy (Chen Lab)** and PhD student **Weili Yang (Chen lab)** created a scenario where a factory dumped Chemical X, which is thought to damage brains, into the water near a town. Campers then completed several clinical activities relating to brain function, including the Romberg Balance test, examining each other's pupils, saying, "Ahh" to test the vagus nerve, knee reflexes, and dropping & catching rulers to evaluate reaction time. Each activity accompanied a short lesson on the associated section of the brain. Zana commented, "It was...great that we knew some of the things they had been learning and could work that into our presentation (*i.e.*, they dissected brains, so they knew some names of the regions already)."

– Angela Larck, MSOL; CEC Program Manager.



The [Journal of Clinical Endocrinology & Metabolism](#) has published work by Cecily Fassler, Ph.D., Frank Biro, M.D., Susan M. Pinney, Ph.D., F.A.C.E., *et al.*, that may well enhance understanding of the timing of pubertal milestones and risk of adult disease. The team examined in young girls the levels of 4 sex hormones



Mean hormone values by phenotype across time windows relative to thelarche (-6 months, thelarche (0), +6 mos after thelarche).

(estradiol, estrone, testosterone and DHEA-S) at three points around the start of puberty, which aggregated the girls into 4 distinct phenotypes defined by these hormone profiles. Fassler is a mentee of CEG Director Susan M. Pinney, Ph.D., F.A.C.E.

## Recent Publications

Fassler CS, Gutmark-Little I, **Xie C**, Giannini CM, Chandler DW, **Biro FM, Pinney SM.** Sex hormone phenotypes in young girls and the age at pubertal milestones. *J Clin Endocrinol Metab*. 2019 Aug 13. pii: jc.2019-00889. [PMID: 31408174](#)

**Haynes EN**, Hilbert TJ, Roberts R, Quirolgico J, **Shepler R**, Beckner G, Veevers J, Burkle J, **Jandarov R.** Public participation in air sampling and water quality test kit development to enable citizen science. *Prog Community Health Partnersh*. Summer 2019;13(2):141-51. [PMID: 31178449](#)

Wronkiewicz SK, Roggli VL, Hinrichs BH, . . . **Langevin SM.** Chrysotile fibers in tissue adjacent to laryngeal squamous cell carcinoma in cases with a history of occupational asbestos exposure. *Mod Pathol*. 2019 Aug 5. [PMID: 31383968](#)